DEPARTMENT OF CITY PLANNING 100 LARKIN STREET • SAN FRANCISCO, CALIFORNIA 94102

San Francisco City Planning Commission

Environmental Impact Report

CROCKER NATIONAL BANK NO. CALIFORNIA HEADQUARTERS

Draft

EE 78.298

Publication Date: 18 May 1979
Public Comment Period: 18 May 1979
through 21 June 1979
Public Hearing Date: 21 June 1979

San Francisco City Planning Commission

Environmental Impact Report

CROCKER NATIONAL BANK NO. CALIFORNIA HEADQUARTERS

Draft

EE 78.298

Written comments should be sent to the Environmental Review Officer, 45 Hyde St., San Francisco, CA 94102

Crocker National Bank
No. California
1979.

TABLE OF CONTENTS

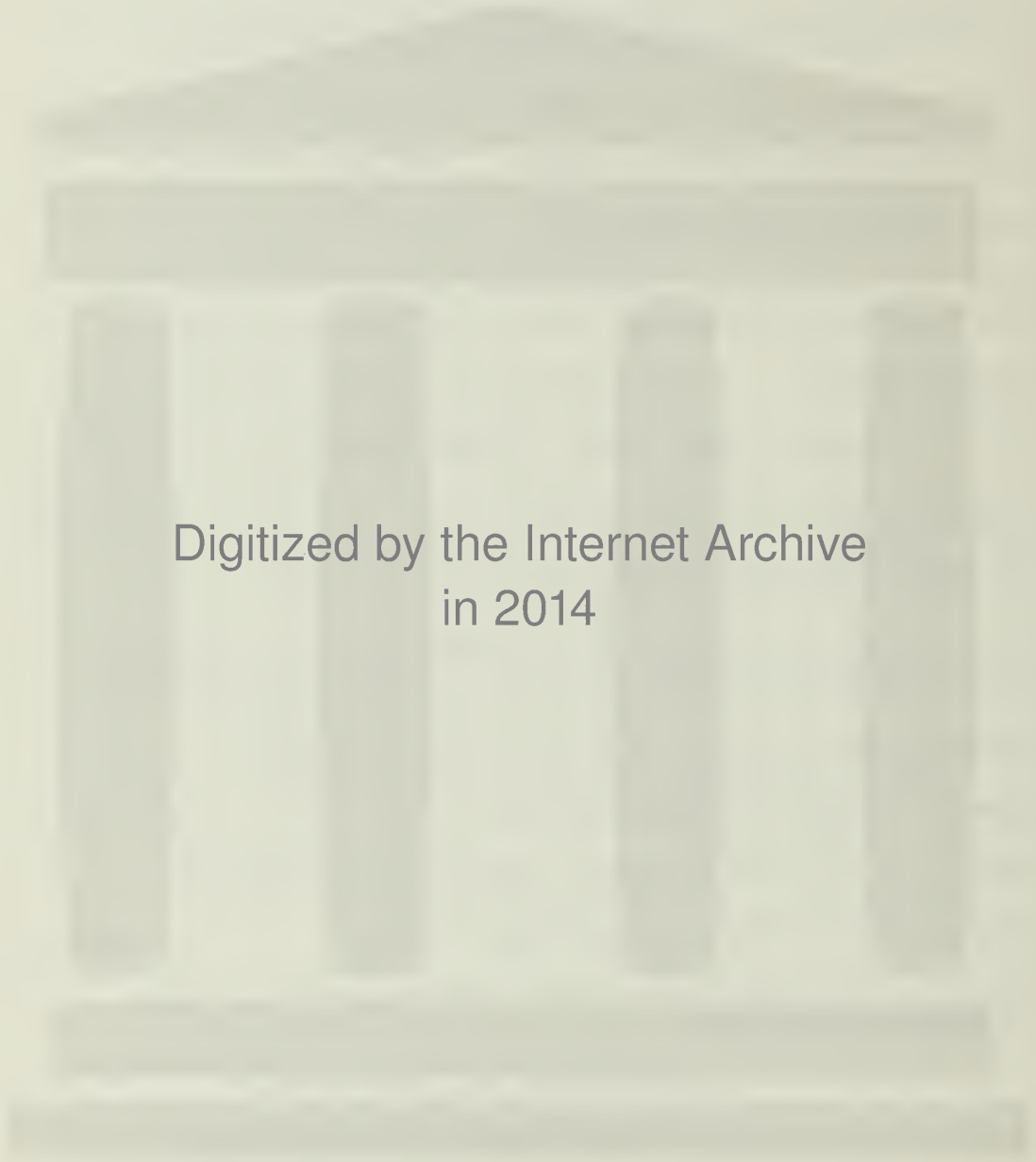
TABLE OF CONTENTS (continued)

LIST OF FIGURES

LIST OF FIGURES (continued)

LIST OF TABLES

LIST OF TABLES (continued)



I. SUMMARY

PROJECT DESCRIPTION

Crocker National Bank proposes to construct a northern California administrative headquarters facility in the block bounded by Montgomery, Post, Kearny, and Sutter Sts. The project site is the entire block, except for the Sutter Hotel at Kearny and Sutter Sts. and Ver Mehr Pl.

The proposed project would consist of a 500-ft. office tower at Post and Kearny Sts. and a 3-level, midblock, retail shopping galleria connecting Post and Sutter Sts., which would be called the Lick Place Galleria. A rooftop terrace would be provided on the roof of the galleria. The terrace would be accessible from the third level of the tower and by elevator from the 13-story bank and office structure at No. 1 Montgomery St. and the 22-story office structure at 111 Sutter St. Pedestrian circulation would be possible throughout the retail banking and lobby levels of all buildings on the project site, including the 111 Sutter Building, No. 1 Montgomery St., the banking hall at No. 25 Montgomery St., and the proposed new facilities. Vehicular circulation would be limited to below-grade service and parking levels accessible from Sutter St.

The 38-story tower would contain a total of 568,500 net leasable sq. ft. of office space on 33 office floors. The galleria and lower 4 levels (including the Montgomery St. level) of the tower would contain 86,000 net leasable sq. ft. of food service and retail space. The parking level would provide spaces for 60-100 vehicles.

The project would require demolition of the existing Lick Garage, which now occupies the central portion of the block, the Foxcroft Building at 68 Post St., the Insurance Building at 98 Post St., and the Lyons Building at 130 Kearny St.

ENVIRONMENTAL EFFECTS

ZONING AND LAND USE

The portion of the project site east of Lick Pl. is located in the 700-I Height and Bulk District; the portion of the project site west of Lick Pl. is located in the 500-I District. The proposed project would comply with the height and bulk restrictions that apply within these Districts. The proposed tower height of 500 ft. and the proposed maximum diagonal dimension of the tower of 200 ft. (above a height of 150 ft.) would equal the permitted maximums for height and diagonal dimension at the tower site.

URBAN DESIGN

The project would require demolition of 4 buildings, of which 2, the Foxcroft Building and the Lyons Building, are given the second highest rating ("B") in the as yet unpublished Heritage Foundation survey of downtown buildings. Two buildings that received the highest rating ("A") in this survey would be retained: the 111 Sutter Building and No. 1 Montgomery St.

The exterior surfaces of the basically rectilinear tower are expected to consist of solar gray glass and presently unspecified masonry material. The colors of these materials would be light- to medium-gray and would shift in value depending upon sun and sky conditions. The tower would be similar in scale to the neighboring Wells Fargo and Aetna Buildings, but would contrast with smaller-scale development to the immediate north and west.

The galleria and tower base would have finishes and horizontal facade lines intended to continue the surface design themes of neighboring older buildings. At lower levels, the retail galleria and rooftop terrace would provide various pedestrian amenities.

Shadows cast by the project would generally not affect public parks or plazas, although the tower would shade the Crocker Plaza at the Aetna Building in late summer afternoons. The proposed rooftop terrace and glass-roofed galleria

would be partially shaded by the Aetna Building and the proposed tower around midday, especially during fall and winter months; and would be partially shaded by the proposed tower during afternoon hours throughout the year.

ECONOMICS

The project would result in demolition of about 52,500 net leasable sq. ft. of office space on the project site and would add about 568,500 sq. ft. The net increase would therefore be 516,000 sq. ft. or about 1% of the total existing downtown office space. About 32,200 sq. ft. of net usable retail space would also be demolished and 86,000 sq. ft. would be added, an increase of 53,800 sq. ft.

The project would accommodate as many as 2,500 Crocker employees in late 1981, increasing ultimately to a maximum of 3,100 to 3,600 by the late 1980's or 1990's. Total employment at the project site, including non-Crocker employees, would be as much as 4,100 in 1981, an increase of 2,500 over the present 1,600. When Crocker reaches its maximum employment level, on-site employment would be approximately 4,800, an increase of 3,200 over the present level. On-site project construction would provide an estimated 650 person-years of construction labor with a total construction payroll of $16.7 million.

The project would require displacement of 73 businesses employing about 240 persons. Most displaced businesses would be expected to relocate in San Francisco, although some may relocate outside the Downtown area or go out of business. The project would result in an increase in city property tax revenues of approximately $0.8 to $1.1 million in 1981.

TRANSPORTATION, CIRCULATION, AND PARKING

The proposed project would cause no changes in pedestrian or vehicular levels of service, nor would it generate appreciable additional transit demand. Existing on-street loading would be replaced by off-street loading facilities. On-site parking would be reduced by at least 350 spaces from the 450 now located in the Lick Garage.

Construction traffic would temporarily lessen the capacity of access streets and haul routes, between 9:00 a.m. and 4:00 p.m. Installation of underground utility connections would cause intermittent nighttime traffic disruption for up to 90 days along adjacent portions of Kearny and Sutter Sts.

METEOROLOGY

Westerly and northwesterly winds are the most frequent and strongest winds during all seasons in San Francisco. These winds occur from 27 to 79% of the time throughout the year.

The project would increase wind speeds along Post St. and reduce wind speeds at the Crocker Plaza during westerly and northwesterly wind conditions, and would increase wind speeds along Montgomery St. during westerly wind conditions. Wind speeds on the proposed rooftop terrace would be relatively high during westerly wind conditions.

Project implementation would contribute to local and regional accumulations of carbon monoxide, hydrocarbons, nitrogen oxides, particulates and sulfur oxides during adverse meteorological conditions such as inversions. The project would have no measurable impact on citywide or regional concentrations, and would not increase frequencies of standards violations.

NOISE

Noise impacts due to project operation would not be measurable. Noise impacts due to project construction would cause some intermittent work interference in neighboring office buildings. Impact pile drivers would not be used.

ENERGY

The project would be designed and constructed to be within minimum standards for energy conservation established by the California Energy Commission. The connected kilowatt load would be approximately 9,400 KW. Annual electrical consumption would be approximately 14.9 million KWH; annual natural gas consumption would be about 15.4 million cu. ft.

COMMUNITY SERVICES AND UTILITIES

The project would create new demands for fire protection and security which would be met by the fire protection measures required by the Uniform Building Code and the proposed internal security measures that would be incorporated into the project. The project would increase demands for City water and sewer services and solid waste disposal, representing less than 1/2% of the current daily demands for these services. These demands could be met by existing service systems and would not require additional personnel, equipment or facilities.

GEOLOGY, SEISMOLOGY, AND HYDROLOGY

The site would be excavated to a depth of 52 ft. below grade. Planned seismic engineering of the new structures based on applicable seismic design standards would minimize earthquake hazards to the public and project employees. Dewatering could cause as much as 1 inch of settlement in soils adjacent to the site and as much as one-half inch of settlement as far away as 200 ft. This settlement could cause cracks in nearby streets and old brick and masonry buildings, and could damage underground utility lines.

II. PROJECT DESCRIPTION

A. OBJECTIVES OF THE PROPOSED PROJECT

Crocker National Bank, which is California's fourth largest bank and has its Northern California headquarters in San Francisco, proposes to build a new office building in order to centralize its staff which is now in 8 buildings in downtown San Francisco. Crocker Bank would bring a staff of approximately 2,500 persons, which is expected to expand to at least 3,100 in a few years, together in one location and would provide facilities which in its judgment would properly serve and represent the Bank.

B. LOCATION OF THE PROPOSED PROJECT

The proposed Crocker National Bank Northern California headquarters would be located in Assessor's Block 292, which is bounded by Montgomery, Post, Kearny and Sutter Sts. (see Figure 1). The project would include parcels 1, 1A, 2, 3, 4, 5, 6, 7, 8, 11 and 12 (see Figure 2, p. 8). The existing 13-story bank building at No. 1 Montgomery St., the 2-story banking hall at No. 25 Montgomery St., and the 22-story 111 Sutter Building would be retained as part of the project. The existing Lick Garage, Foxcroft Building, Insurance Building, and Lyons Building would be demolished (see Figure 2, p. 8). New construction would consist of a 3-level shopping galleria and a 38-story office tower, and would be located on Lick Place, a private street, and land to the west presently occupied by the structures to be demolished. The Sutter Hotel, at the corner of Sutter and Kearny Sts., north of Ver Mehr Pl., is not included in the project.

The project site is at the western edge of the Financial District, adjacent to the eastern edge of the Union Square Shopping and Hotel District. It is adjacent to the Montgomery Station of the Market St. subway, which serves the Bay Area Rapid Transit system (BART) and the future Muni Metro light rail system (see Figure 29, p. 60, for locations of subway stations).

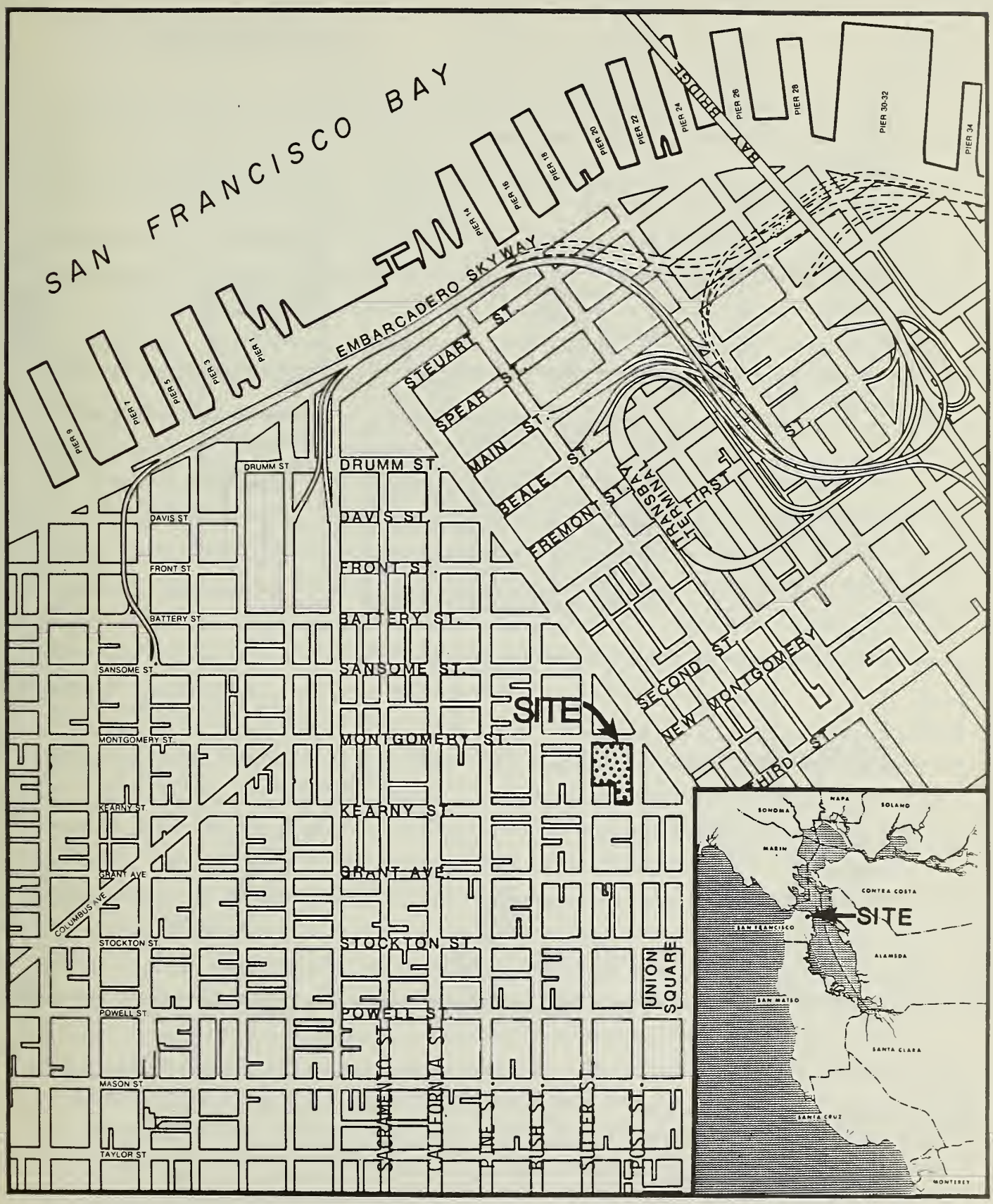
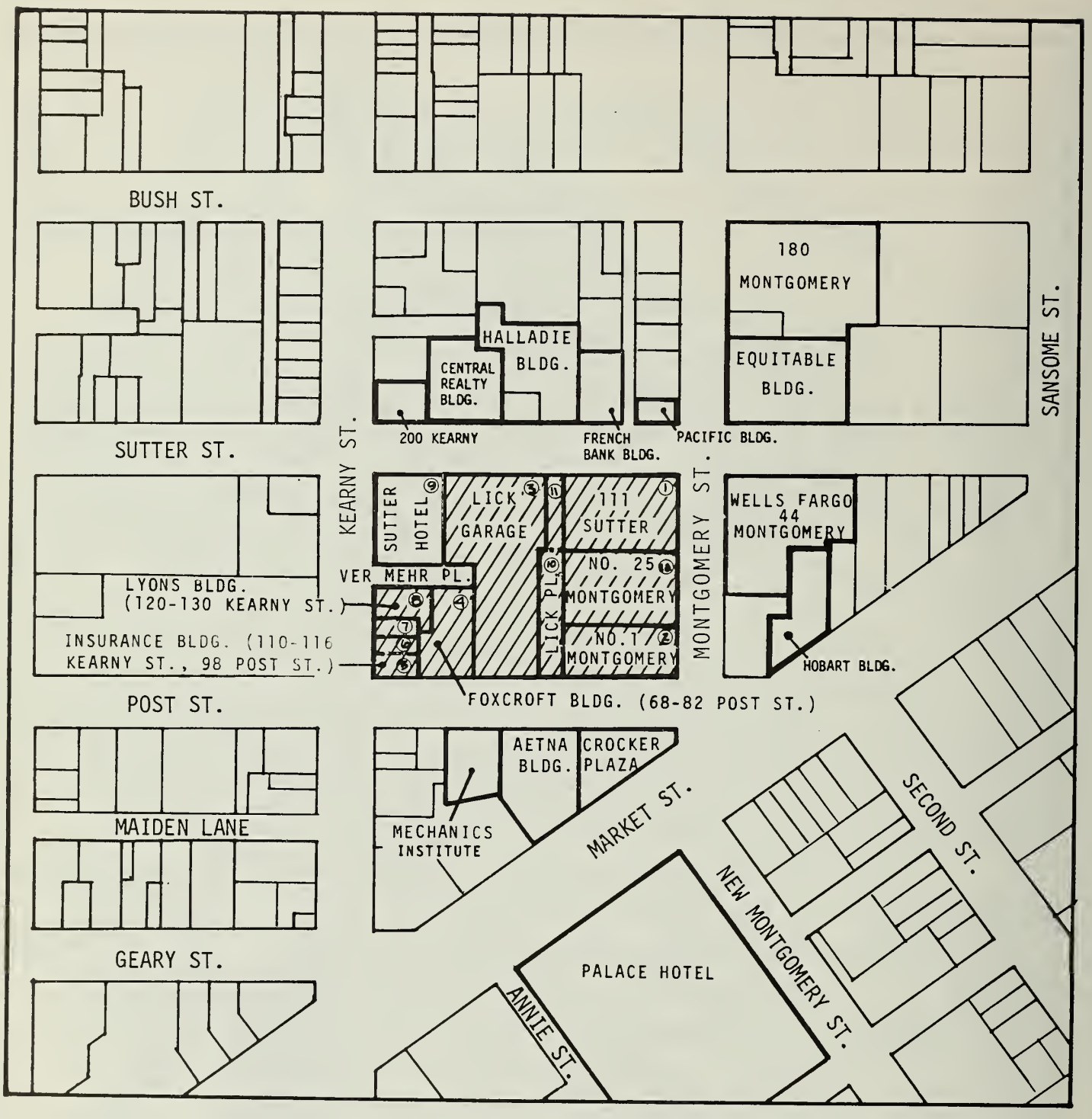


FIGURE 1: SITE LOCATION IN RELATION TO THE BAY REGION AND TO DOWNTOWN SAN FRANCISCO



NOTES:

Project Site

Project block is Assessor's Block No. 292.
Assessor's Parcel Nos. are circled.

SOURCE: Environmental Science Associates, Inc.

FIGURE 2: PROJECT SITE AND VICINITY

C. SITE AND BUILDING PLANS

The project would include a 38-story office tower at Post and Kearny Sts. south of Ver Mehr Pl. The tower would be 500 ft. high and would contain 33 office floors, 2 mechanical floors, 3 retail levels, as well as subsurface retail, parking, and service levels. Between the tower and the buildings on Montgomery St., which would be retained, a 3-level retail shopping galleria would be built. The galleria, to be called the Lick Place Galleria, would extend north to Sutter St. west of the 111 Sutter Building and east of the Sutter Hotel. An outdoor, landscaped terrace of approximately 7,500 sq. ft. would be built on a portion of the galleria roof. It has not been determined whether the terrace would be made available to the public.

The block-long, 3-level, 40-ft.-high galleria would have a vaulted roof of clear glass. The lower level would be coincident with the main banking floor on the Montgomery St. side of the site and with the lobby level of the 111 Sutter Building. The second level would match the lobby level of the new office building, which would be level with Kearny St. Above would be a third level of retail activity. All levels would be connected by escalators and shuttle elevators.

There would be 9 pedestrian entrances to the project (see Figures 10 and 11, pp. 20 and 21). On the Montgomery St. level these would be at the Sutter and Post St. ends of the galleria, the Sutter St. entrance to the 111 Sutter Building, the entrance to the Banking Hall at 25 Montgomery St., and the entrances at No. 1 Montgomery St. on Montgomery St. and on Post St. On the Kearny St. level there would be an entrance to the office tower lobby on Kearny St., to the galleria at the end of Ver Mehr Pl., and a retail entrance on Sutter St. west of the galleria. Pedestrians could walk through the project between any 2 entrances. Four of these entrances would be at grade and usable by physically handicapped persons. Ver Mehr Pl. would continue to provide service vehicle access to the Sutter Hotel, but would be closed to auto traffic. Crocker would apply to the City for vacation of the eastern 40 ft. of Ver Mehr Pl., which is surrounded on 3 sides by the project site, to facilitate construction of underground service facilities and improvement of the end of the alley as a pedestrian entrance to the galleria.

The concrete block base structure of the upper 11 floors of No. 1 Montgomery St. was resurfaced with a polished terra cotta veneer in 1960. The 2-story granite base is still in its original condition. It has a corner rotunda supported on Doric columns, arched windows, and a cast bronze frieze above the second level. A similar, masonry facade would be continued across the galleria and tower base. Display windows and shop windows would front the street facades, with awnings and identifying commercial graphics. There would be a total retail frontage, with direct pedestrian access from either the surrounding streets or the galleria, of approximately 1,700 ft.

The tower would consist of a basically rectilinear form with overall exterior plan dimensions of 168 ft. by 120 ft. The vertical corners of the tower would be beveled to reduce its maximum diagonal plan dimension from 206.5 ft. to 200 ft. Approximately 40% of the surface area of the tower surface (110,000 sq. ft.) is expected to be a solar gray reflective glass, and approximately 60% (160,000 sq. ft.) is expected to be a light-colored, masonry exterior finish material. It is the architects' intent that the tower be light rather than dark, and respond to and reflect the typical varied sky colors of San Francisco.

Beneath the tower and galleria would be 2 service levels, 1 for off-street loading to serve all buildings in the project, and one for parking 60 to 100 automobiles. Access to these levels would be from Sutter St. where 1 curb cut would be required.

Project floor areas, renderings, plans, elevations, and sections are shown below (see Table 1 and Figures 3-19, pp. 13-29). The project architects and engineers are Skidmore, Owings & Merrill, One Maritime Plaza, San Francisco.

D. PROJECT SCHEDULE, REQUIRED ACTIONS, AND COSTS

Detailed design of the proposed project is scheduled by the sponsor for completion in mid-1979. Demolition of the Lick Garage, the Foxcroft Building, the Insurance Building and the Lyons Building is scheduled by the project sponsor for mid-1979, to be followed by construction. Occupancy is scheduled for late 1981./1/

TABLE 1: PROPOSED NEW OFFICE AND RETAIL FLOOR AREAS (sq. ft.)*

	Gross	Leasable
OFFICE:		
Proposed Tower (including mechanical levels)	716,000 sq. ft.	568,500 sq. ft.
Less: Other existing office space on-site; to be demolished	(66,000)	(52,500)
Subtotal**	650,000	516,000
RETAIL:		
Galleria	265,000***	86,000
Less: Other existing retail space on-site; to be demolished	(40,000)	(32,000)
Subtotal	225,000	54,000
TOTAL INCREASE (OFFICE AND RETAIL)**	875,000	570,000

*Rounded to nearest thousand.
**Does not include approximately 305,000 gross sq. ft. (247,000 net sq. ft.) of office space that would be retained in the 111 Sutter Building.
***Includes service and parking levels.

SOURCES: Skidmore, Owings & Merrill and Crocker Properties, Inc.

The various City departments typically involved in a project of this type must process permit applications for demolition, excavation and construction. The City Planning Commission must also conduct a public hearing on this environmental impact report and certify it in compliance with the requirements of the California Environmental Quality Act.

The City Planning Commission must also report on compliance of the application to vacate a portion of Ver Mehr Pl. with the Comprehensive Plan for the City and County of San Francisco, and the Board of Supervisors must take final action on this application.

The sponsor estimates that the value of the project site and the cost of construction would be $66.0 million and that the cost of interior space development, professional services, interim financing, and related costs would be $35.6 million for a total of $101.6 million in 1978 dollars./2/

NOTES - Project Description

/1/ A detailed construction schedule is on file at the Department of City Planning, Office of Environmental Review.

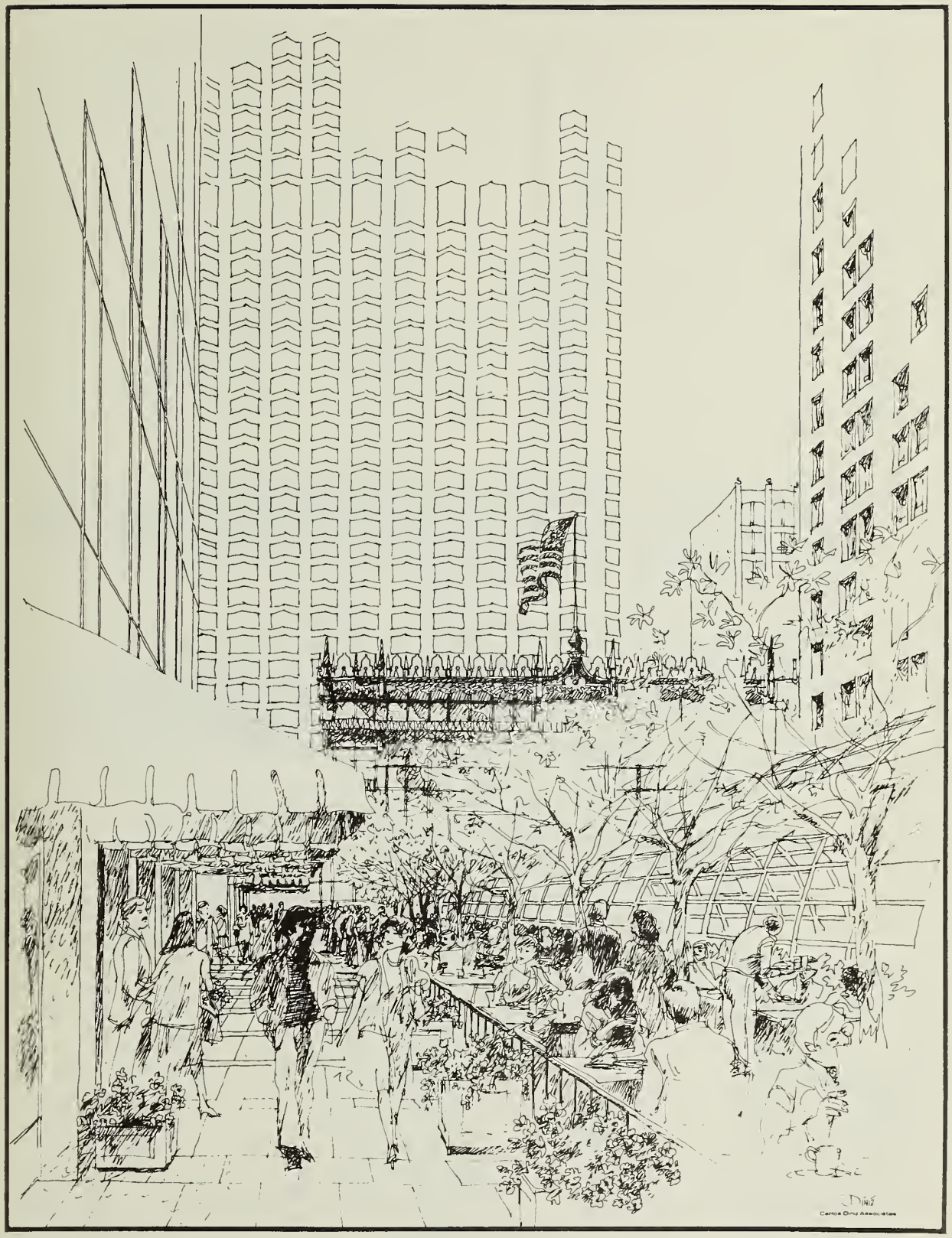
/2/ R. H. Short, Jr., Senior Vice President, Crocker National Bank, personal communication, 1 March 1979. This estimate does not include the cost of interior furnishings.

SOURCE: Skidmore, Owings & Merrill

FIGURE 3: VIEW OF PROPOSED PROJECT FROM MONTGOMERY AND POST STREETS

SOURCE: Skidmore, Owings & Merrill

FIGURE 4: VIEW OF PROPOSED GALLERIA INTERIOR

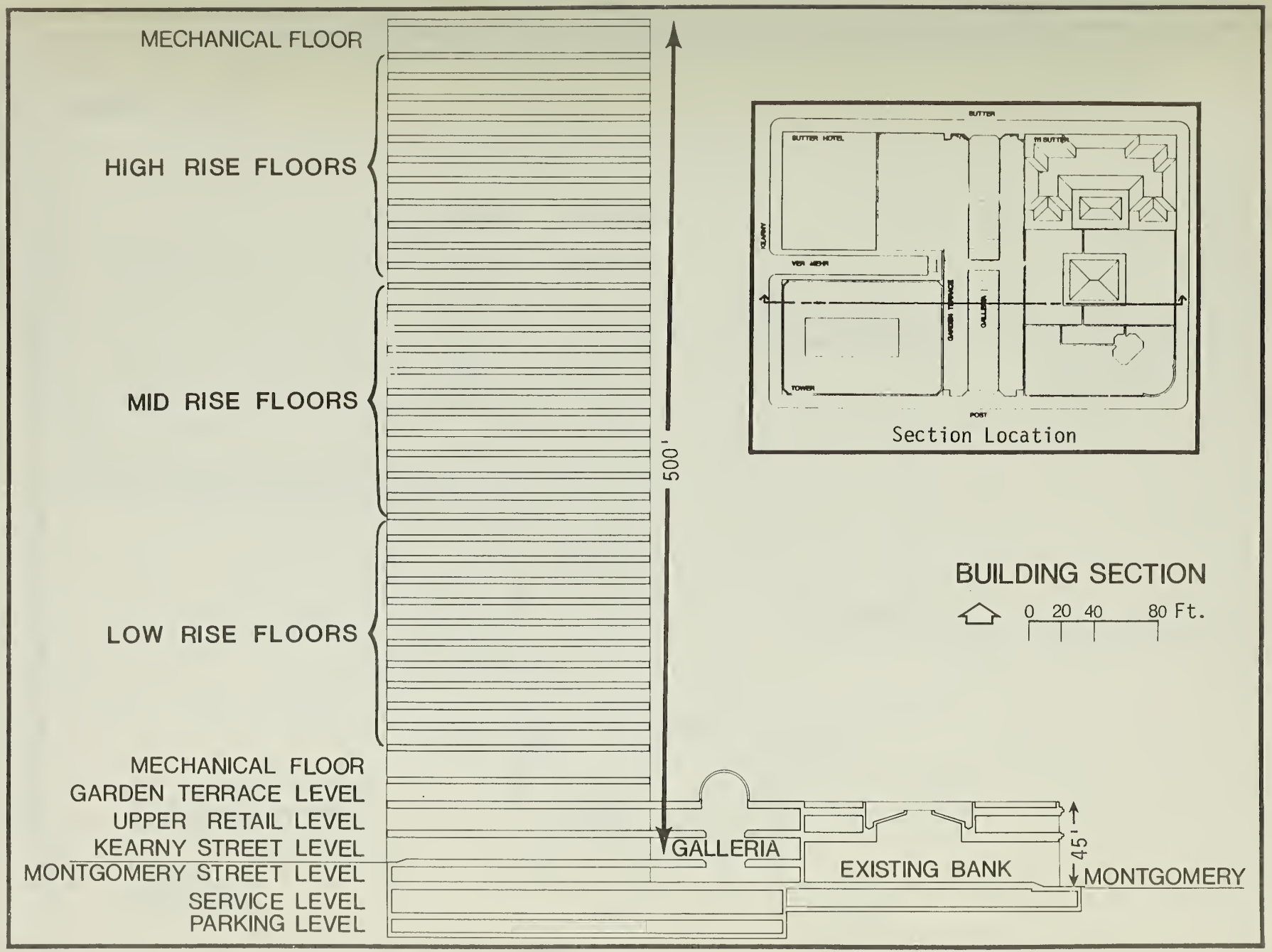


SOURCE: Skidmore, Owings & Merrill

FIGURE 5: VIEW OF PROPOSED ROOFTOP TERRACE

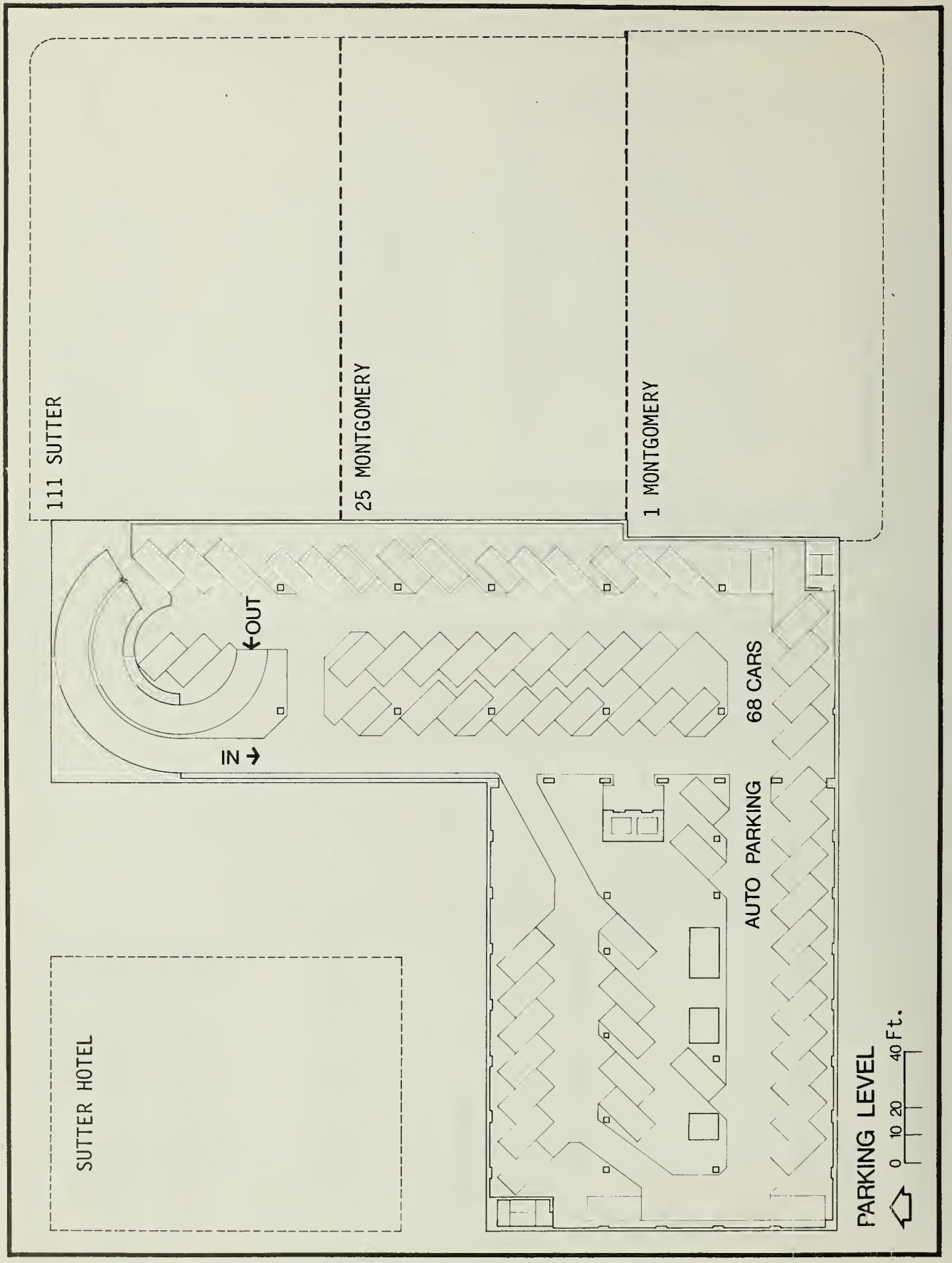
SOURCE: Skidmore, Owings & Merrill

FIGURE 6: SITE PLAN



SOURCE: Skidmore, Owings & Merrill

FIGURE 7: PROJECT SECTION (LOOKING NORTH)

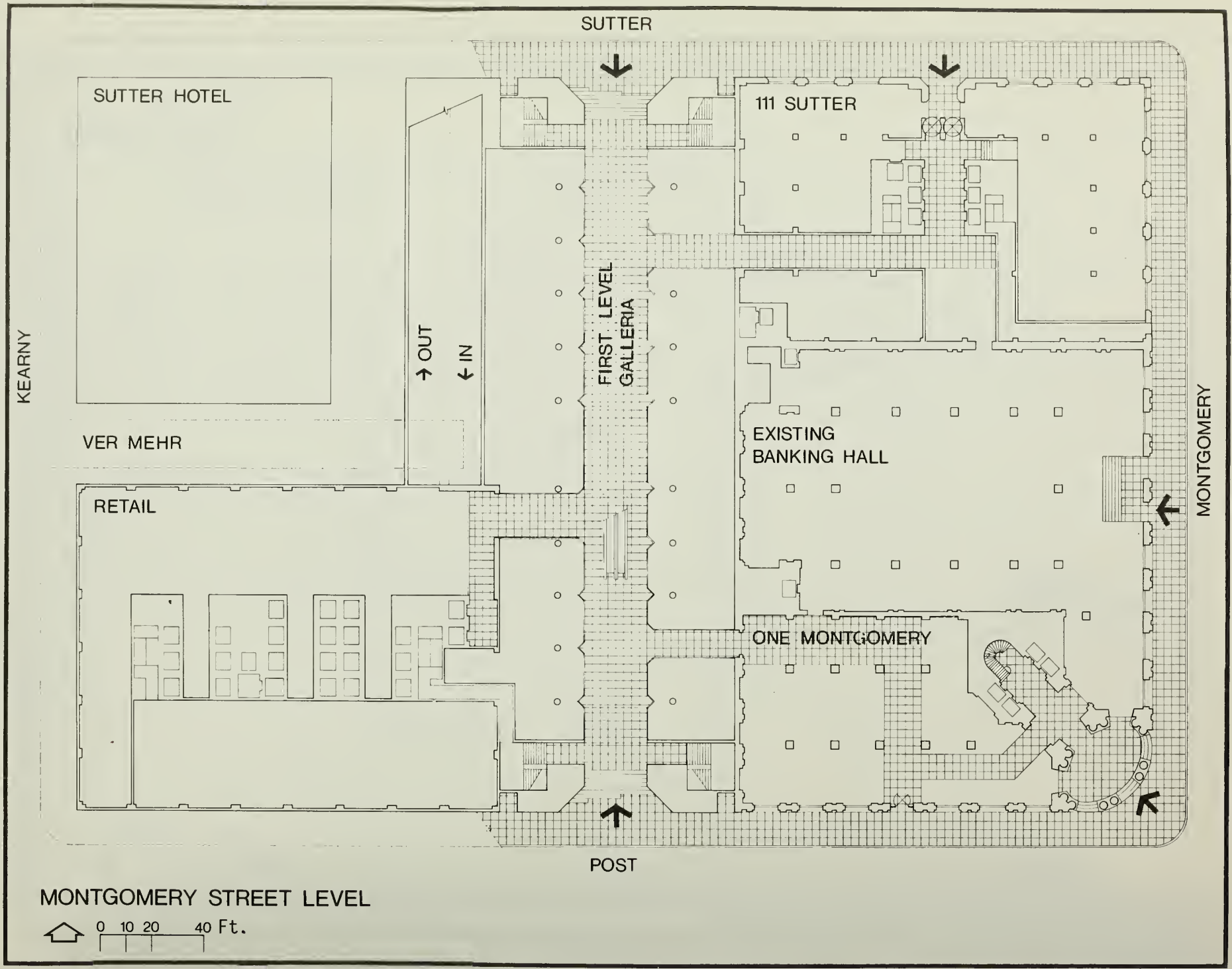


SOURCE: Skidmore, Owings & Merrill

FIGURE 8: PARKING LEVEL

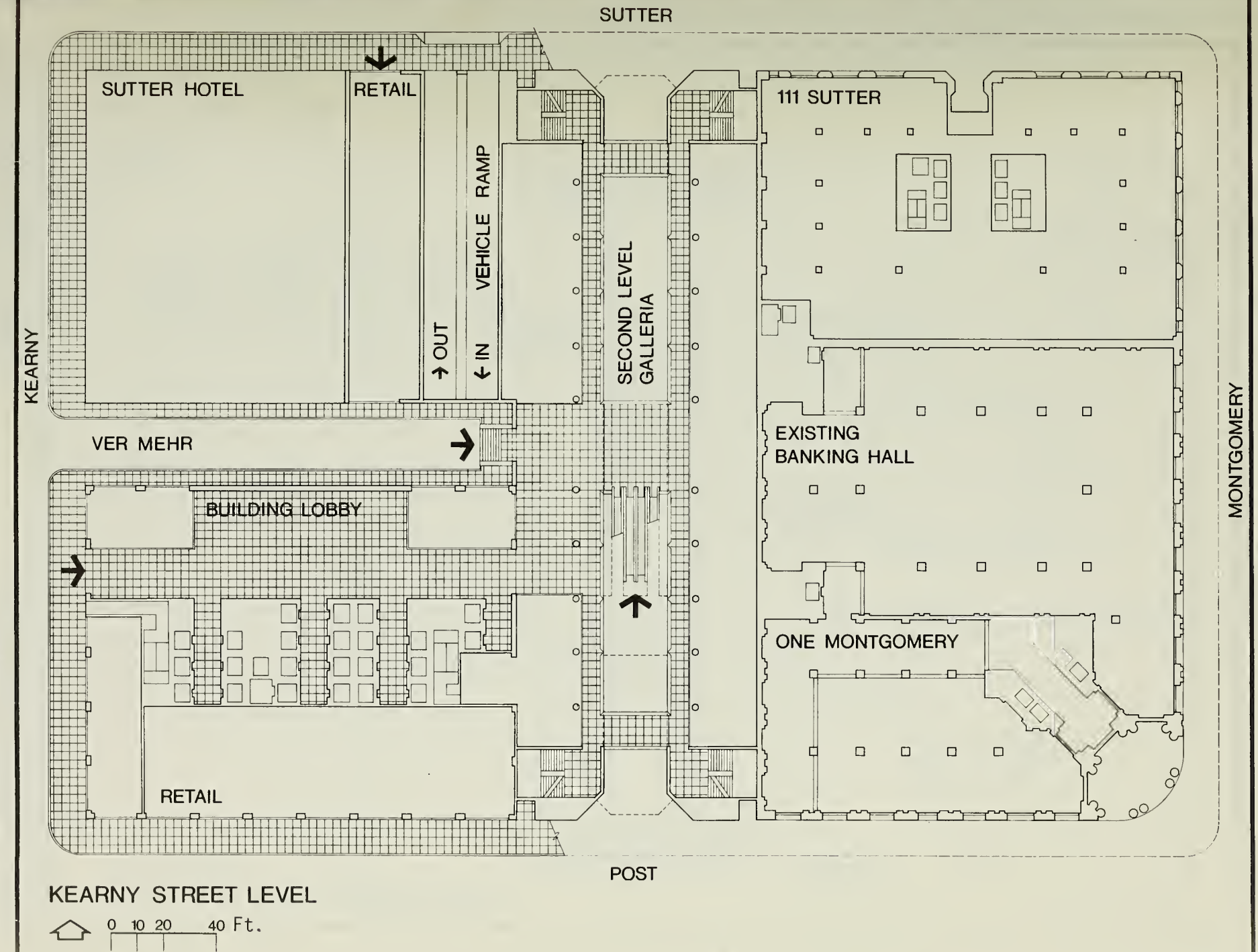
SOURCE: Skidmore, Owings & Merrill

FIGURE 9: SERVICE LEVEL



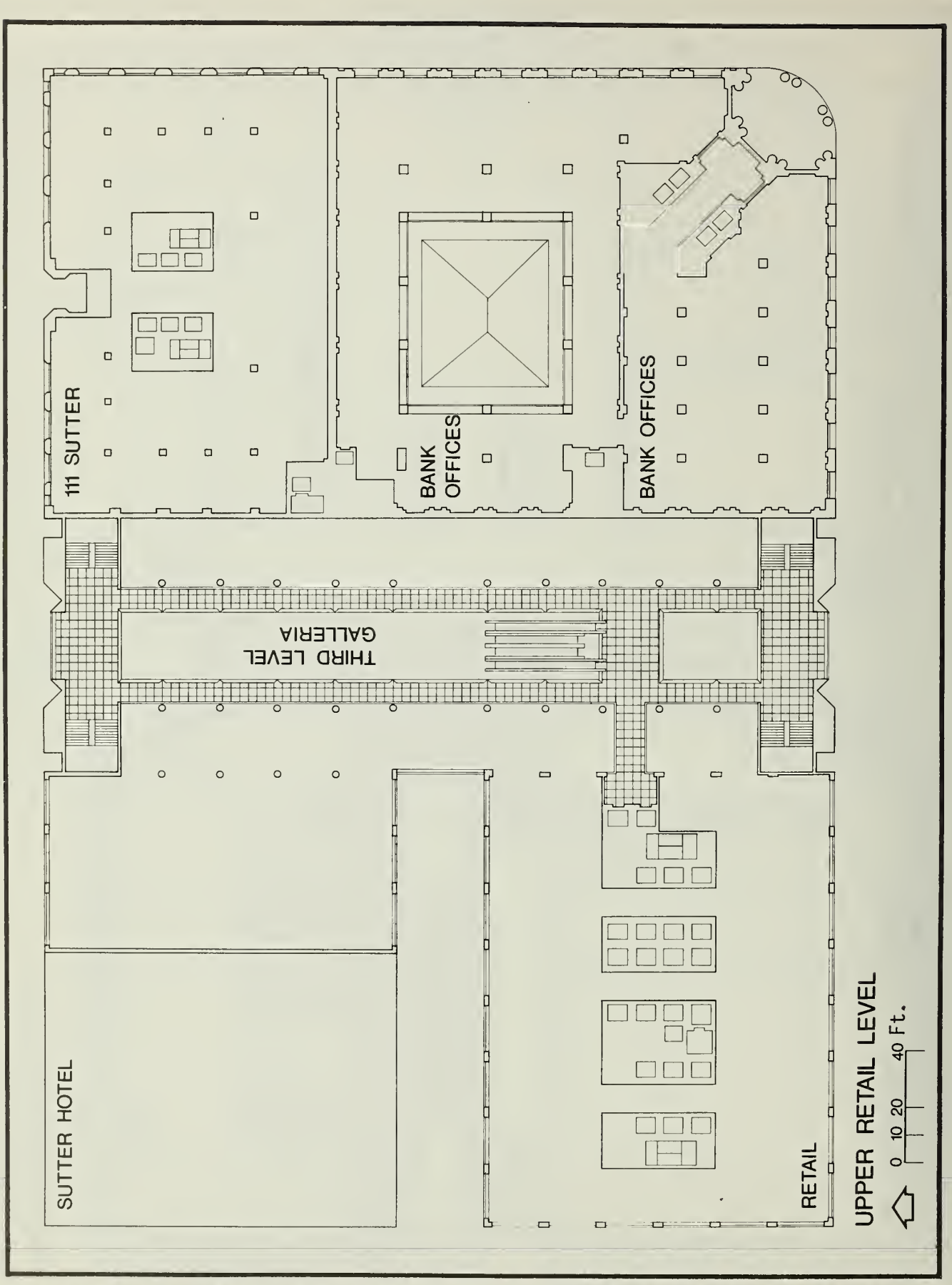
SOURCE: Skidmore, Owings & Merrill

FIGURE 10: MONTGOMERY STREET LEVEL



SOURCE: Skidmore, Owings & Merrill

FIGURE 11: KEARNY STREET LEVEL

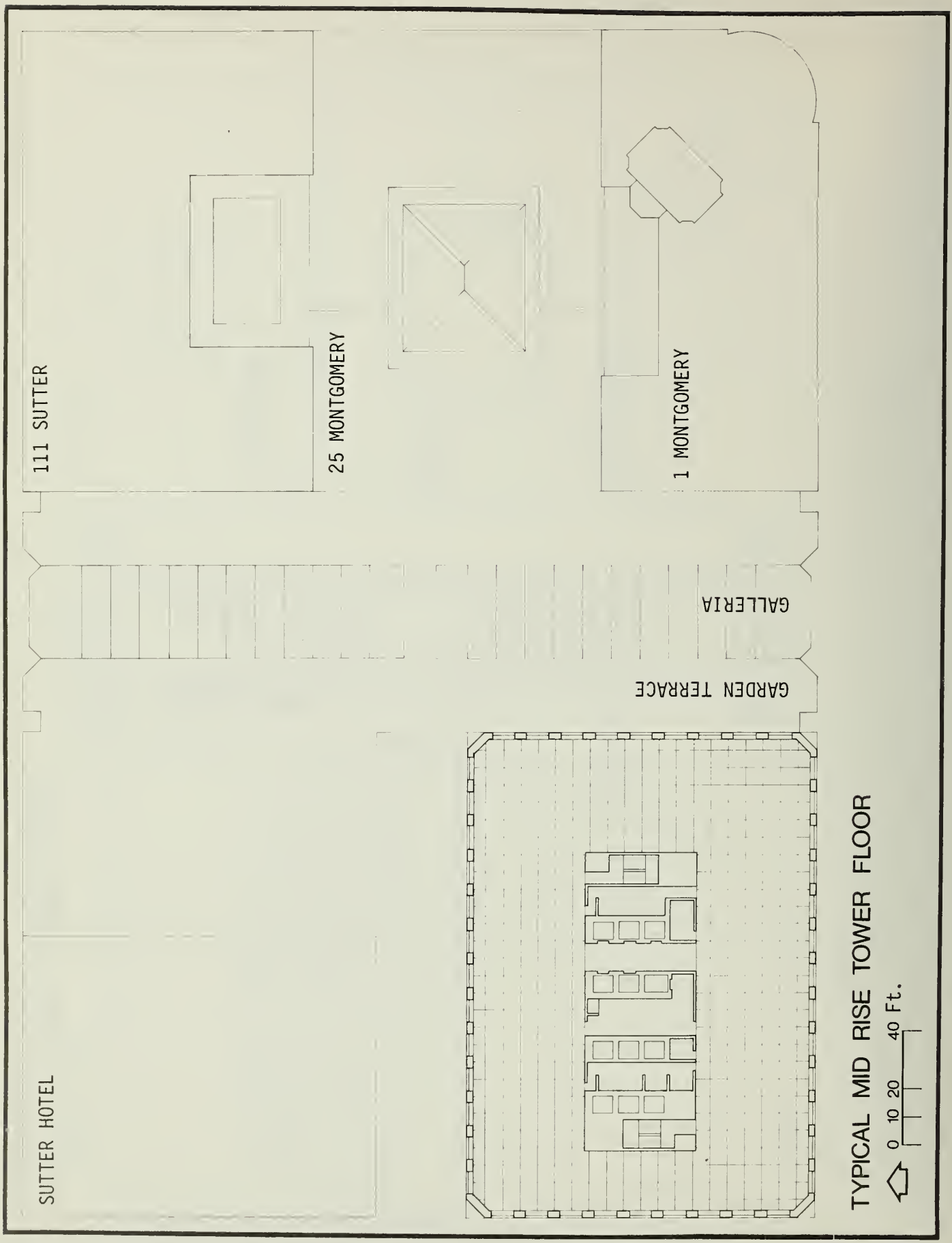


SOURCE: Skidmore, Owings & Merrill

FIGURE 12: UPPER RETAIL LEVEL

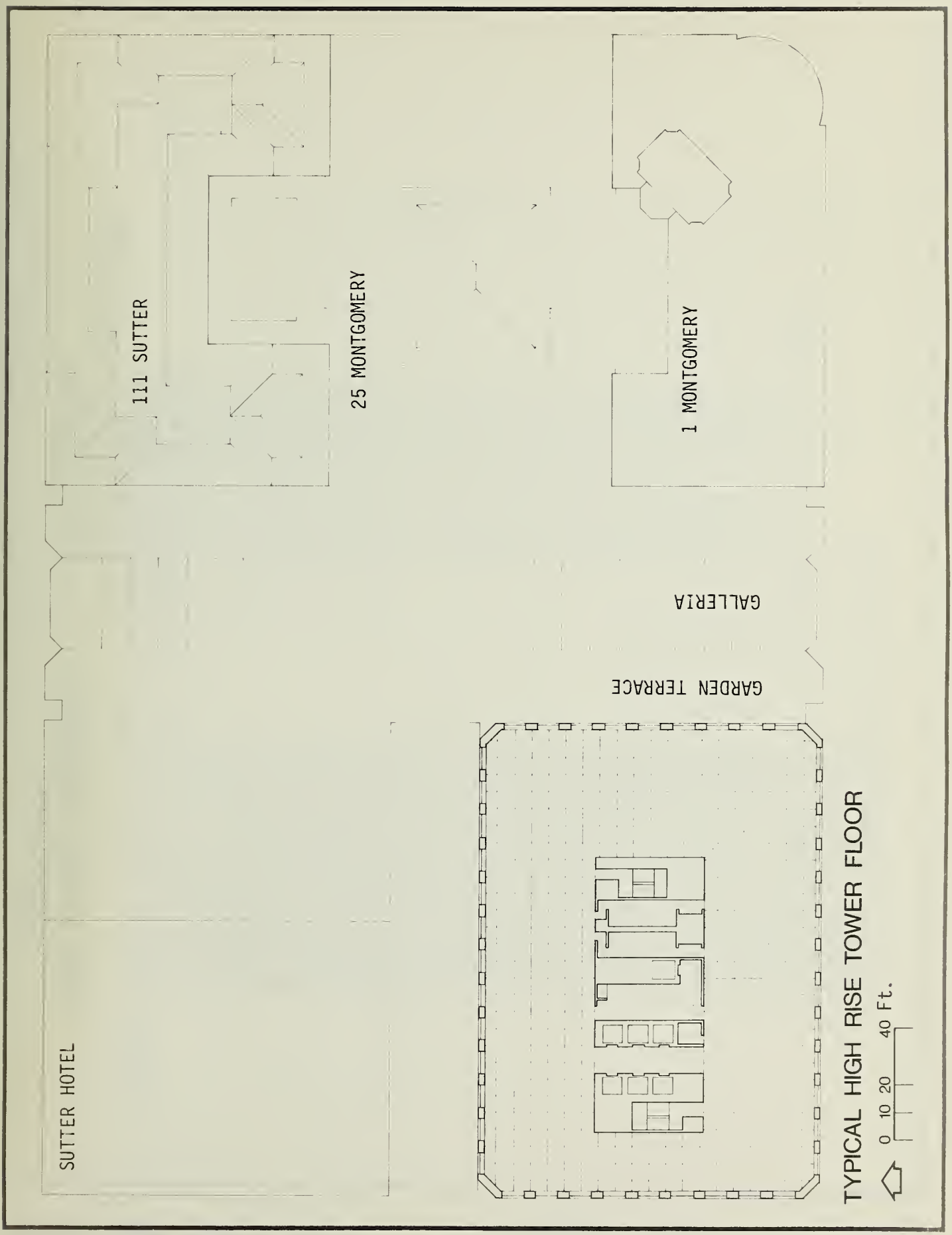
SOURCE: Skidmore, Owings & Merrill

FIGURE 13: TYPICAL LOW-RISE FLOOR
(FLOORS 5-15)



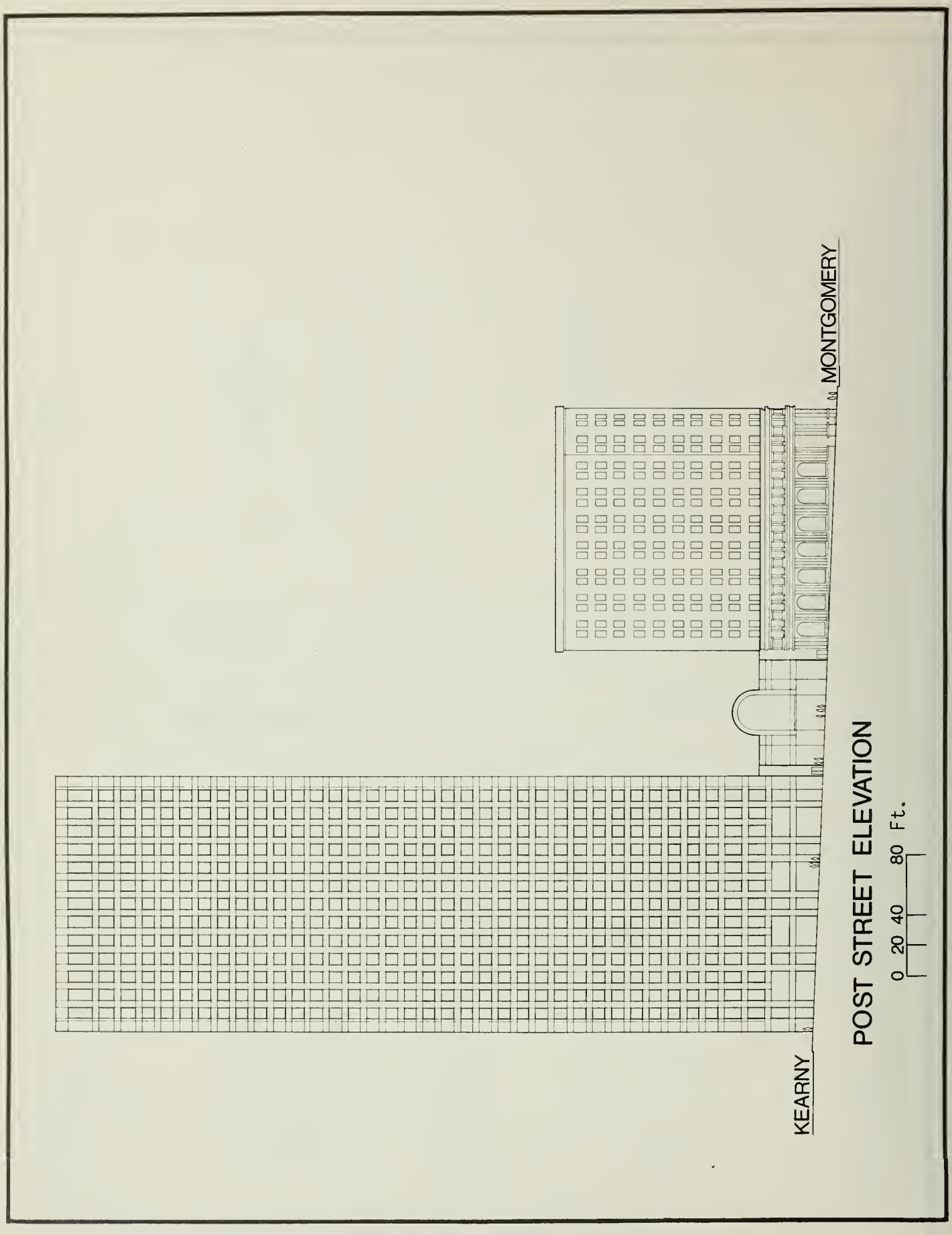
SOURCE: Skidmore, Owings & Merrill

FIGURE 14: TYPICAL MID-RISE FLOOR
(FLOORS 16-26)



SOURCE: Skidmore, Owings & Merrill

FIGURE 15: TYPICAL HIGH-RISE FLOOR
(FLOORS 27-37)

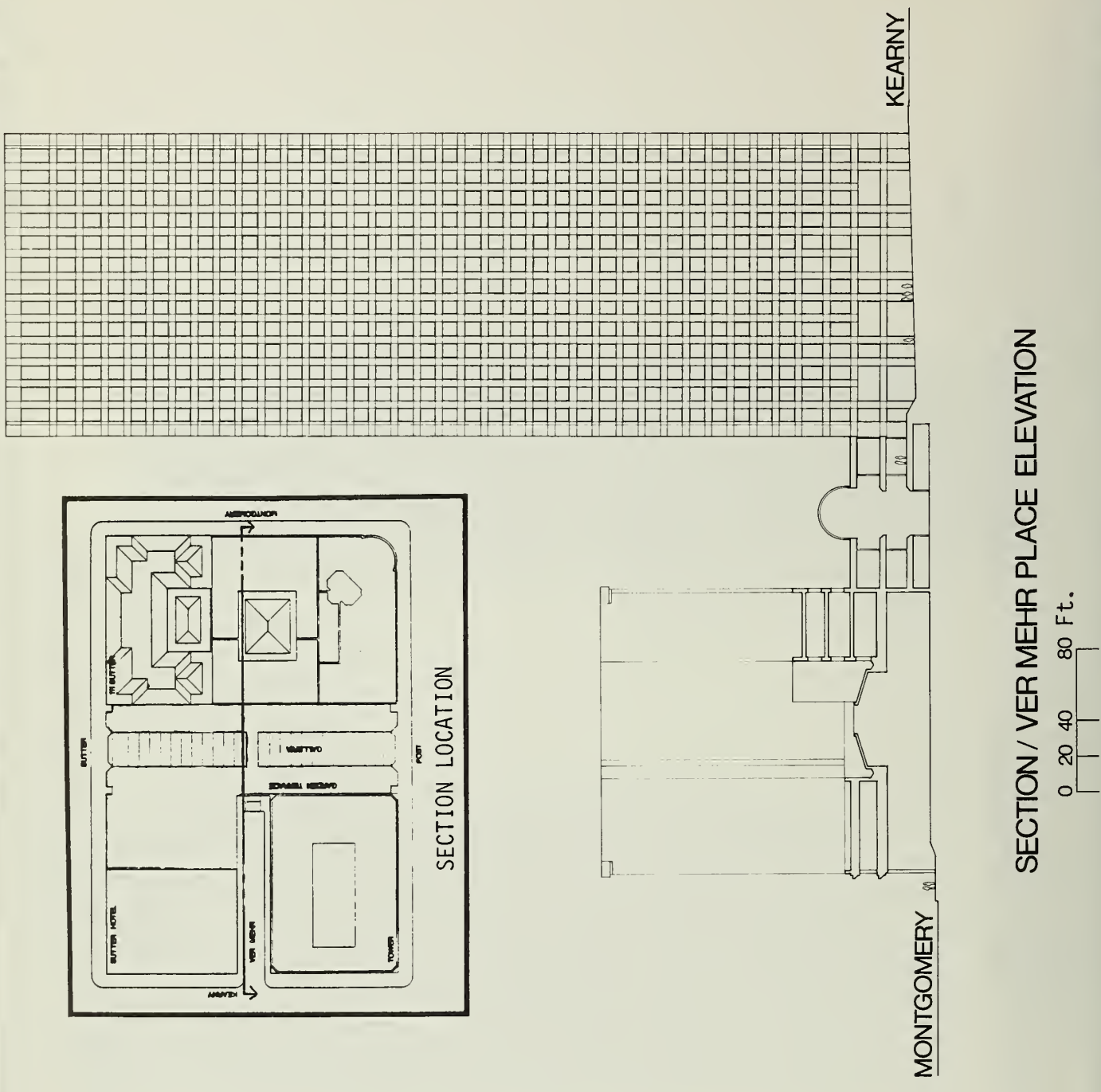


SOURCE: Skidmore, Owings & Merrill

FIGURE 16: POST STREET ELEVATION

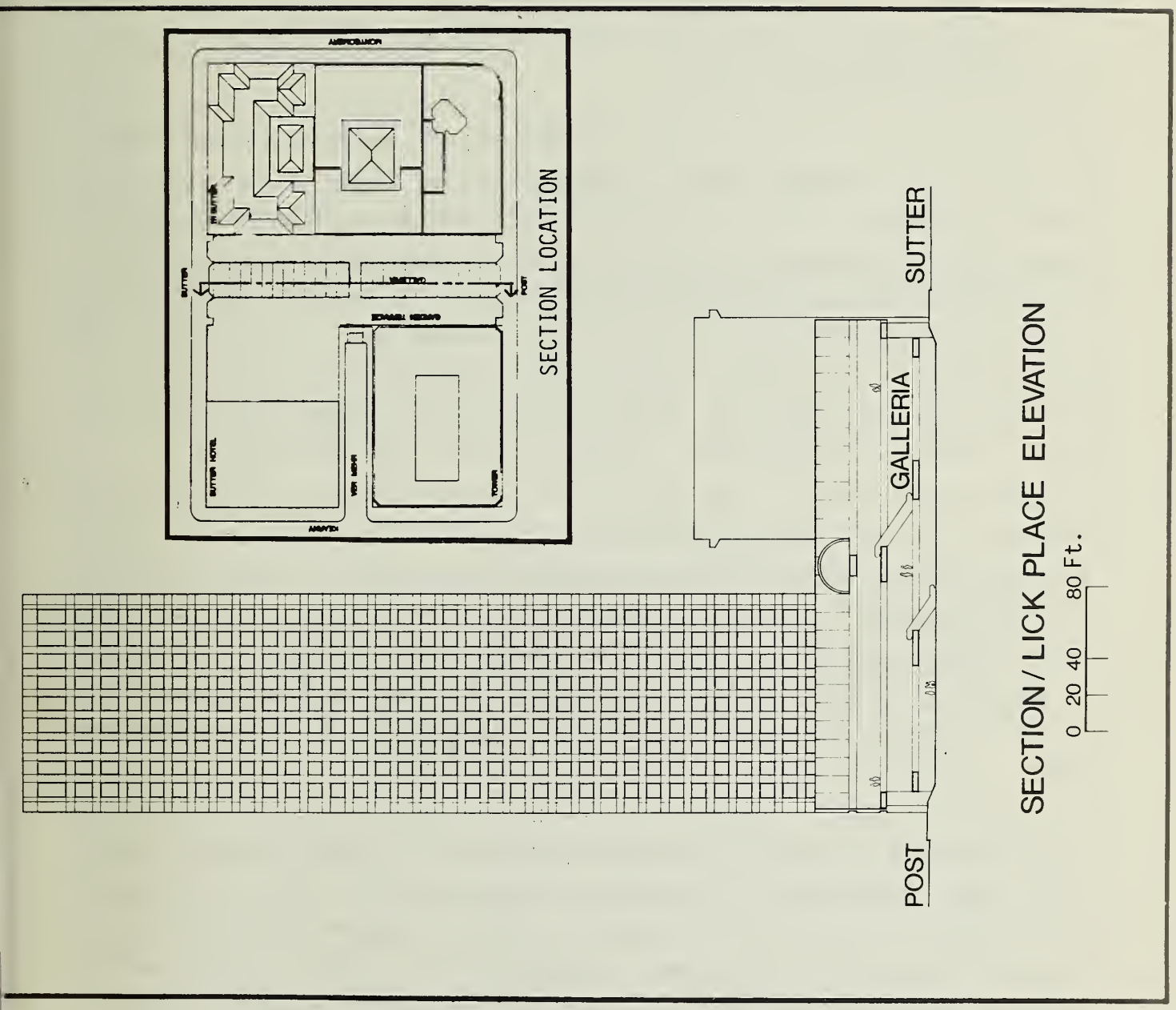
SOURCE: Skidmore, Owings & Merrill

FIGURE 17: KEARNY STREET ELEVATION



SOURCE: Skidmore, Owings & Merrill

FIGURE 18: SECTION/VER MEHR PLACE ELEVATION



SOURCE: Skidmore, Owings & Merrill

FIGURE 19: SECTION/LICK PLACE ELEVATION

III. ENVIRONMENTAL SETTING

A. CULTURAL AND HISTORIC FACTORS

The project site was the last block on Montgomery St. to be developed in the gold rush years, when San Francisco became an active center of commerce. The center of business activity in those years was further north on Montgomery St. between California and Washington Sts. The U.S. Coast Survey Chart of 1853 shows development extending south on Montgomery St. as far as Sutter St.; a 40-ft.-high sand hill blocked Montgomery St. between Sutter and Post Sts., and the project site was covered with dune sand. The toll gate to the Mission plank road, built in 1851, was at Post and Kearny Sts., where a cut in a 60-ft. sand hill had been made. The road extended south on Kearny St., cutting through an 80-ft. high sand hill at Market and Third Sts., and proceeded south on Third St. to Mission St. where it turned westward. As the sand hills were leveled to fill in Yerba Buena Cove east of First St. and the original shoreline, development spread southward. By 1857 the U.S. Coast Survey showed the project site to be occupied by scattered, small structures. In 1862, the Lick House, a prominent hostelry, was built at 25 Montgomery St., on the southwest corner of Montgomery and Sutter Sts./1/ It was destroyed in 1906.

All buildings on the project site were destroyed in the 1906 earthquake and fire. Rebuilding on the site occurred in the succeeding decade. The First National Bank of San Francisco, founded in 1870 as the First National Gold Bank, was built on the site at No. 1 Montgomery St. in 1909. In 1925 Crocker Bank, which had been founded in 1883 as Crocker-Woolworth & Company and was located at 600 Market St. where Crocker Plaza is now located, acquired the First National Bank and moved to No. 1 Montgomery St., which has served as its Northern California headquarters since that time./2/ The banking hall at 25 Montgomery St. was built in 1921. Further changes occurred in 1928 when the mansard-roofed, 22-story 111 Sutter (Hunter-Dulin) Building was completed, and in 1952 when the Lick Garage was built.

No buildings on the site have been identified as landmarks by the San Francisco Landmarks Preservation Advisory Board,/3/ nor are any on state or national lists./4/

NOTES - Cultural and Historic Factors

/1/ Rosemary Lick, 1967, The Generous Miser, the Story of James Lick of California, The Ward Ritchie Press.

/2/ L. Enersen, Assistant Vice President, Crocker Properties, Inc., telephone communications, 10 and 11 October 1978.

/3/ E. N. Michael, former Secretary, Landmarks Preservation Advisory Board, personal communication, 12 October 1978.

/4/ See Section III.C, p. 41, for a discussion of the 1976 San Francisco Architectural Inventory and the 1978 Heritage Inventory as they pertain to this site.

B. LAND USE AND ZONING

LAND USE

The project site is surrounded by important downtown streets, Montgomery, Post, Kearny and Sutter. All four are indicated as transit arterial or preferential streets in the Transportation Element of the Comprehensive Plan,/1/ although the first block of Montgomery St. does not currently have bus routes. Kearny and Montgomery Sts. are also indicated as major thoroughfares in the Transportation Element./2/ Montgomery St. is the principal north-south street in the Financial District. Opposite the site are Market St. and entrances to the Montgomery Station of the 2-level Market St. subway, which carries trains of the 3-county Bay Area Rapid Transit District (BART). Beginning in 1980, the subway is planned to carry the 5 light-rail vehicle routes of the Muni Metro which will serve the Sunset, West-of-Twin Peaks, Ocean View, Eureka Valley, and Noe Valley areas of the City.

The project site consists of all of Assessor's Block 292 except Ver Mehr Pl. and Lot 9, at the corner of Sutter and Kearny Sts., which is occupied by the 8-story Sutter Hotel (see Figure 20, p. 33). Three buildings on the site between Montgomery St. and Lick Pl., a private street, would be retained and

incorporated into the project. One of these is No. 1 Montgomery St. (see Figure 21), the 13-story Crocker Bank building at the corner of Montgomery and Post Sts. Adjoining No. 1 Montgomery St. is the 2-story No. 25 Montgomery St. which contains the main public banking hall (see Figure 21) which would also be retained. The third building in the group to be retained is 111 Sutter St., a 22-story office building which was completed in 1928 (see Figure 22, p. 34). The upper 5 floors of this building are set back from the main facade at each corner, and at the top floor a 2-storied, tile-faced mansard roof rises past dormer-type windows. Almost half of the ground floor contains the office of a brokerage house.

In the middle of the block, extending from Sutter to Post St. along the west side of Lick Pl., is the three-story Lick Garage, built in 1952 for public use. Entrances to the garage are from the end of Ver Mehr Pl. off Kearny St. and from Lick Pl. off both Sutter and Post Sts. At the southwest corner of the project site are 3 office buildings with ground level retail uses. The Foxcroft Building at 68 Post St. is an 8-story building, and the Insurance Building at 98 Post St. (see Figure 23, p. 34) and the Lyons Building at 130 Kearny St. are each 6 stories in height. The entrance to the loft floors of the latter building is on Ver Mehr Pl.

Opposite the site on the east side of Montgomery St. is the 42-story 44 Montgomery Building, an office building with a 3-story banking structure at the southern portion of the blockface. Opposite the site on Post St. is the 38-story Aetna Building at Crocker Plaza. The latter is an open area, part of which is below grade and surrounded on 2 sides by retail uses, a restaurant, and a mezzanine level entrance to the Montgomery Station of the Market St. subway.

To the west of the Aetna Building is the Mechanics Institute, a 9-story, post-earthquake office and library building at 57 Post St. On Kearny St., the buildings opposite the site range in height from 3 to 6 stories and contain street level retail uses and loft or office space in the upper levels. The buildings on the southwest and northwest corners of Kearny and Post Sts. are devoted to retail clothing. On Sutter St. the site is faced by 2 buildings which were highly rated in the Department of City Planning 1976 Architectural Survey (see pp. 41-43)./3/ At 130 Sutter St., opposite Lick Pl. and the Lick

FIGURE 20: THE SUTTER HOTEL

SOURCE: Environmental Science Associates, Inc.

FIGURE 21: NO. 1 AND NO.25 MONTGOMERY STREET

FIGURE 22: THE 111 SUTTER BUILDING (REAR)

SOURCE: Environmental Science Associates, Inc.

FIGURE 23: THE INSURANCE BUILDING

Garage, is the seven-story Halladie Building, a glass curtain-walled building designed by Willis Polk and completed in 1918. It has been officially designated as a landmark building on the recommendation of the Landmarks Preservation Advisory Board. The other building of significance is the French Bank Building at 110 Sutter St. Other buildings on this block of Sutter St. range in height from 3 to 10 stories. Ground floor levels are devoted to retail uses. At the northeast corner of Sutter and Montgomery Sts. is the 25-story Equitable Building. The general land use pattern on the site and in its vicinity, and the heights in stories of neighboring buildings are shown below (see Figures 24 and 25).

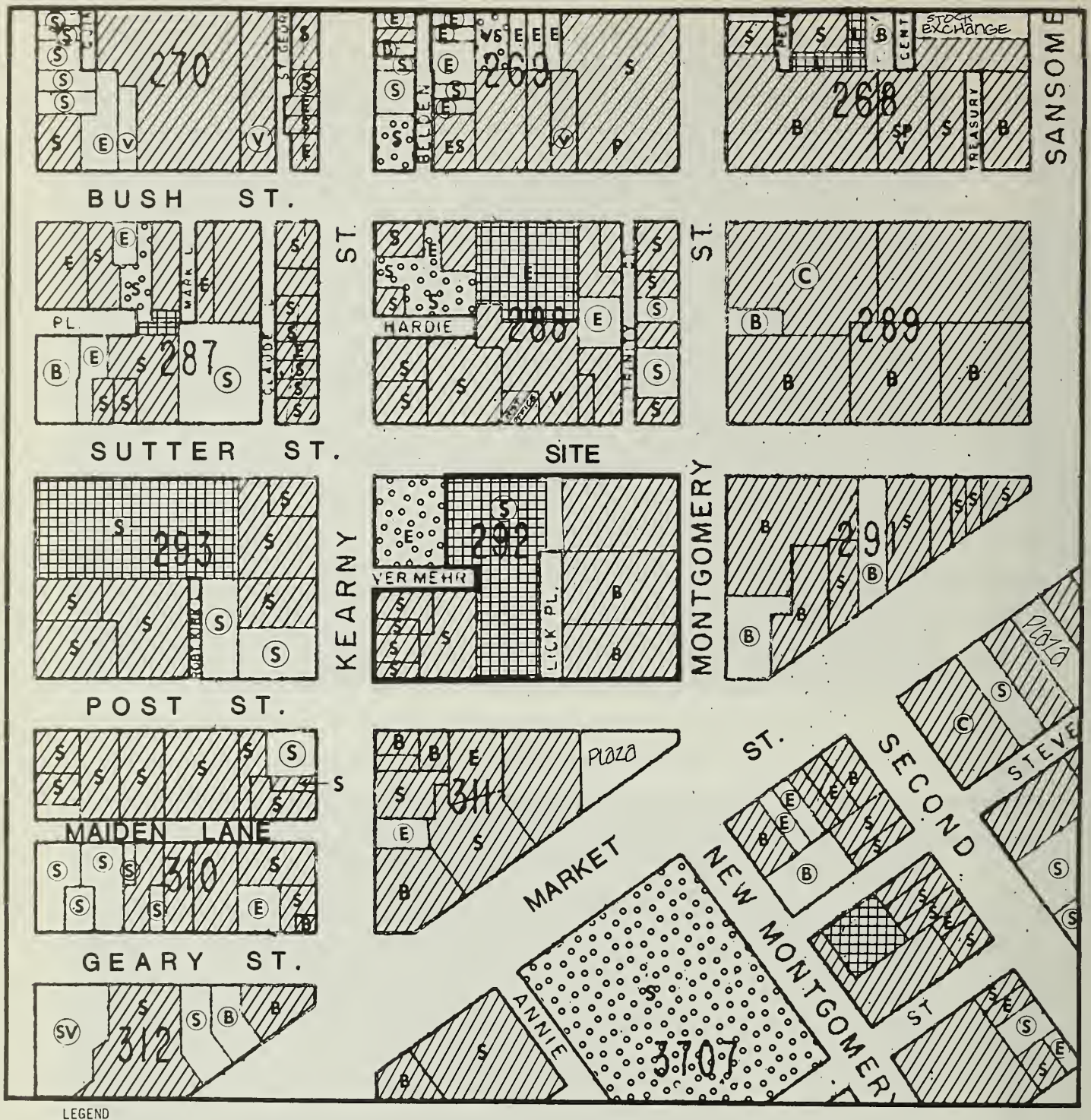
ZONING

The City Planning Code zoning classification for the site is C-3-O, Downtown Office District (see Figure 26, p. 38). Office and retail uses are permitted in this district with a maximum permitted Floor Area Ratio of 14 to 1 (i.e., buildings may have a floor area up to 14 times the area of the site). According to the Planning Code, the C-3-O District plays a leading national role in finance, corporate headquarters and service industries, serves as an employment center for the region, and consists primarily of quality office development.

Within the district ". . . office development is supported by some related retail and service uses within the area, with unrelated uses excluded in order to conserve the supply of land in the core and its expansion areas for further development of major office buildings. Certain desirable guiding features are encouraged by means of development bonuses."/4/

The site is in 2 Planning Code Height and Bulk Districts as shown below (see Figure 27, p. 39):

1) the 700-I Height and Bulk District in which the maximum permitted height is 700 ft. and the maximum permitted bulk of each structure above 150 ft. is a length of 170 ft. and a diagonal dimension of 200 ft. This district, the highest in the City, extends from Montgomery St. to Lick Pl. on the site.



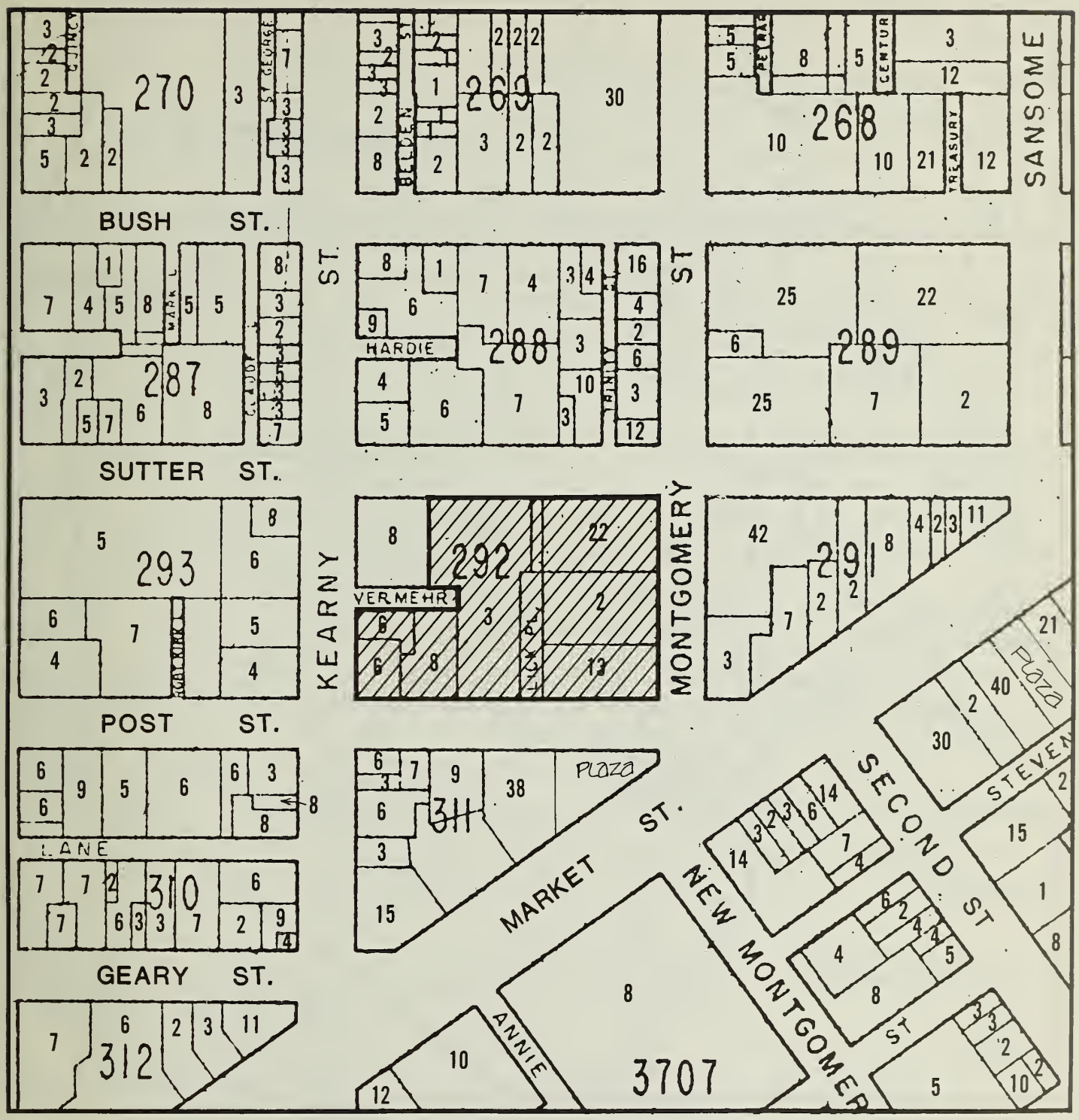
LEGEND

		Multi Use Buildings: Street Level(s)	Multi Use Buildings: Upper Levels	Single Use Buildings
Office				
Hotel				
Parking:				
Structure				
Lot				
Under building	P			(P)
Retail:				
Restaraunt	E			(E)
Shops & Other	S			(S)
Branch Banks	B			(B)
Vacant	V		(V)	(V)
Under construction				(C)

0 200 Ft.

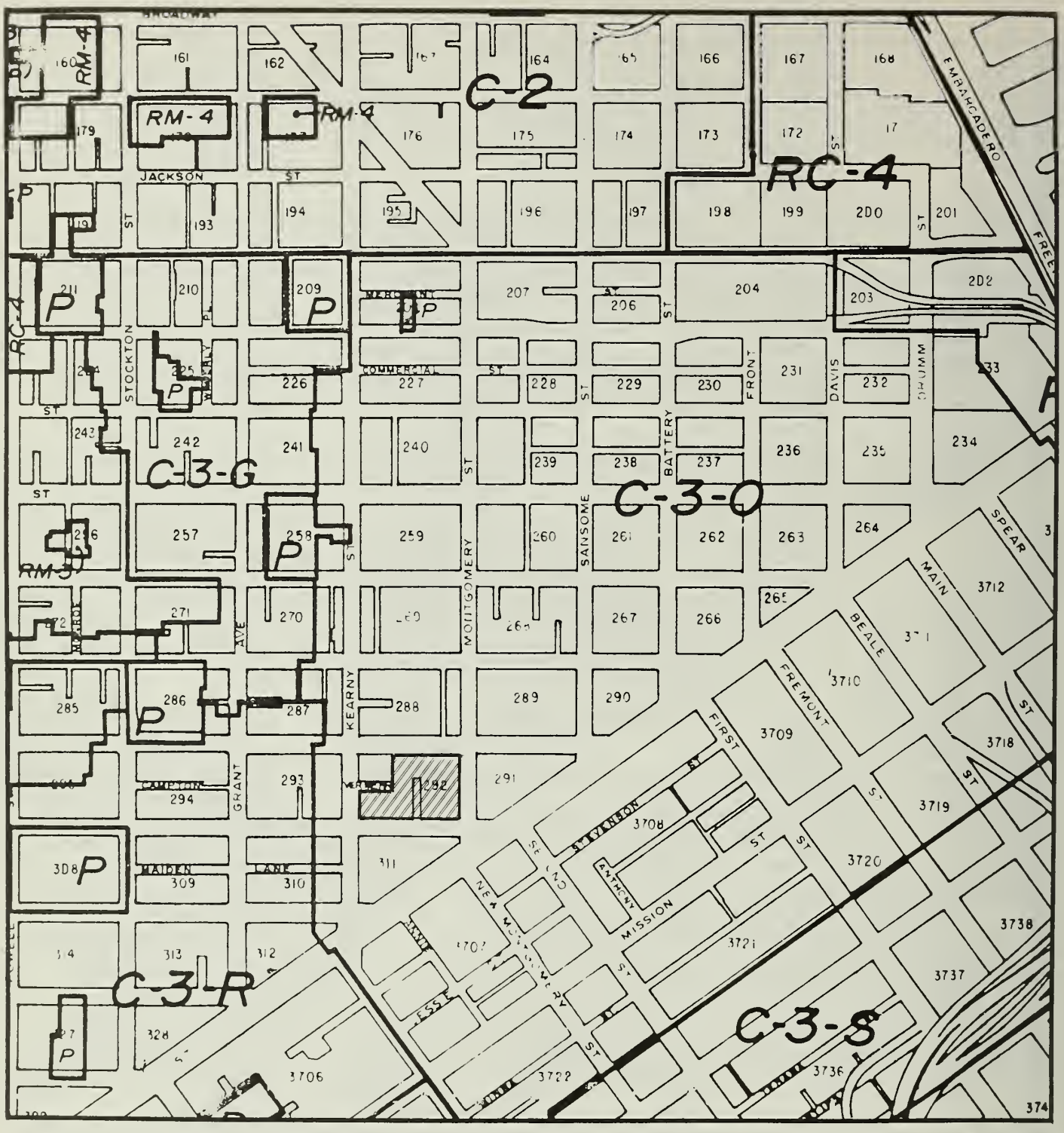
SOURCE: Environmental Science Associates, Inc.

FIGURE 24: EXISTING LAND USE ON THE PROJECT SITE AND IN THE VICINITY



SOURCE: Environmental Science Associates, Inc.

FIGURE 25: HEIGHTS (IN STORIES) OF BUILDINGS ON THE PROJECT SITE AND IN THE VICINITY

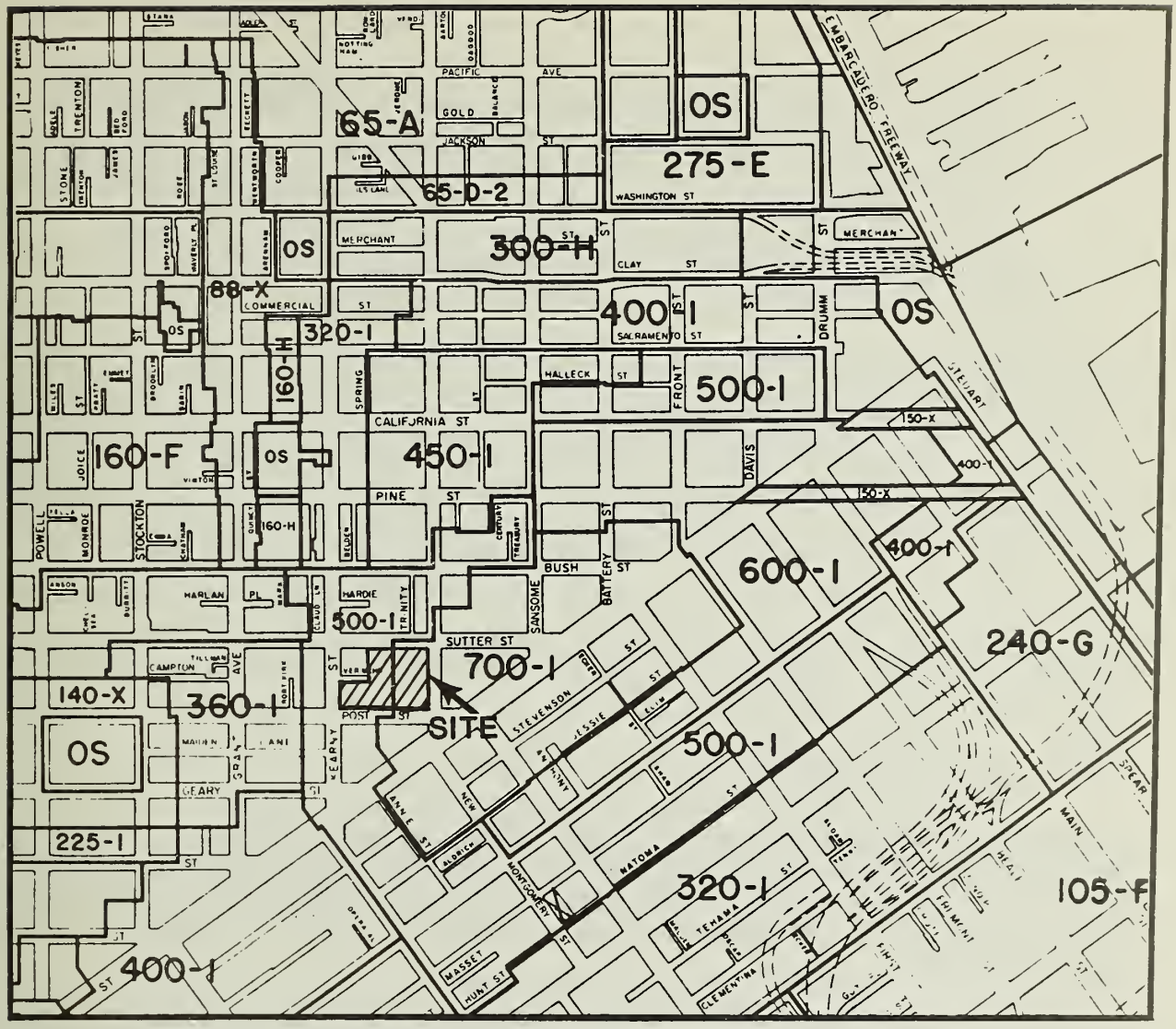


LEGEND

C-2	COMMUNITY BUSINESS DISTRICT
C-3-D	DOWNTOWN OFFICE DISTRICT
C-3-R	DOWNTOWN RETAIL DISTRICT
C-3-S	DOWNTOWN SUPPORT DISTRICT
C-3-G	DOWNTOWN GENERAL COMMERCIAL DISTRICT
RC-4	RESIDENTIAL-COMMERCIAL COMBINED DISTRICT, ONE DWELLING UNIT PER 200 SQUARE FEET OF LOT AREA
RM-3	MIXED HOUSE & APARTMENT CHARACTER DISTRICT, ONE DWELLING UNIT PER 400 SQUARE FEET OF LOT AREA
RM-4	MIXED HOUSE & APARTMENT CHARACTER DISTRICT, ONE DWELLING UNIT PER 200 SQUARE FEET OF LOT AREA
P	PUBLIC USE DISTRICT
//////	PROJECT SITE

FIGURE 26: EXISTING PLANNING CODE USE DISTRICTS ON THE PROJECT SITE AND IN THE VICINITY

SOURCE: San Francisco City Planning Code



HEIGHT AND BULK DISTRICTS	HEIGHT LIMIT	HEIGHT ABOVE WHICH MAXIMUM DIMENSIONS APPLY	MAXIMUM BUILDING LENGTH	MAXIMUM DIAGONAL DIMENSION
700-I	700	150'	170'	200'
600-I	600	150'	170'	200'
500-I	500	150'	170'	200'
450-I	450	150'	170'	200'
400-I	400	150'	170'	200'
360-I	360	150'	170'	200'
340-I	340	150'	170'	200'
320-I	320	150'	170'	200'
300-H	300	100'	170'	200'
275-E	275	65'	110'	140'
240-G	240	80'	170'	200'
225-I	225	150'	170'	200'
160-H	160	100'	170'	200'
160-F	160	80'	110'	140'
150-X	150	BULK LIMITS NOT APPLICABLE		
105-F	105	80'	110'	140'
OS	Conformity with objectives, principles, & policies of the Master Plan			
84-E	84	65'	110'	140'
88-X	88	BULK LIMITS NOT APPLICABLE		
65-A	65	40'	110'	125'
65-D-2*	65	40'	110'	140'

*Height exceptions may be approved up to 200 feet.

SOURCE: San Francisco Planning Code

FIGURE 27:
EXISTING PLANNING CODE HEIGHT AND BULK DISTRICTS ON THE PROJECT SITE AND IN THE VICINITY

2) the 500-I Height and Bulk District in which the maximum permitted height is 500 ft. and the maximum permitted bulk is the same as in the 700-I District. This district includes that portion of the site west of Lick Pl. (The proposed office tower would be in this District).

No off-street parking is required in the C-3-O District. If any parking is provided it may not exceed "seven percent of the total gross floor area of the building or development" without conditional use authorization./5/ Off-street loading for buildings over 500,000 sq. ft. is required at the rate of 3 spaces plus 1 space for each additional 400,000 gross sq. ft. over 500,000 sq. ft./6/ One off-street loading space is required for retail space between 10,001 and 60,000 gross sq. ft./6/ and 2 spaces are required for retail space between 60,001 and 100,000 gross sq. ft.

NOTES - Land Use and Zoning

/1/ Comprehensive Plan for the City and County of San Francisco, Transportation Element, San Francisco City Planning Commission, Resolution 6834, 27 April 1972. Transit arterials are routes of major transit lines. Transit preferential streets are those with priority given to transit vehicles over automobiles.

/2/ Major thoroughfares are defined as cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic from and to the freeways; these are routes generally of citywide significance; of varying capacity depending on the travel demand for the specific direction and adjacent land uses.

/3/ Olmsted, Roger, and T.H. Watkins, 1968, Here Today, San Francisco's Architectural Heritage, Junior League of San Francisco, p. 85.

/4/ City Planning Code, Article 2, Chapter II, San Francisco Municipal Code, Section 210.3.

/5/ City Planning Code, Section 116.2(c).

/6/ City Planning Code, Section 152.

C. URBAN DESIGN FACTORS

ARCHITECTURAL RESOURCES

In 1974-1976, the San Francisco Department of City Planning conducted a citywide inventory of architecturally significant buildings. An advisory review committee of architects and architectural historians/1/ assisted in the final determination of ratings for the 10,000 buildings which have been entered in an unpublished 60-volume record of the inventory. The rated buildings have been recorded on a set of color-coded maps which identify locations and relative significance and are available for public inspection at the Department of City Planning./2/

The inventory was not an inventory of historic structures. Rather, it was an inventory of buildings that were considered to be architecturally significant from the standpoint of overall design, or particular design features. Both historic and contemporary buildings were included. Each building was numerically rated as to its overall architectural significance. The ratings ranged from a low of "0" to a high of "5". The buildings were also separately classified by style. Each structure received a summary rating based on the first 2 codes as well as on its environmental and urban design setting, which also ranged from "0" to "5". Thus each building included in the inventory was coded according to its architectural significance, its style, and its overall environmental significance. The survey was intended to include the best 10% of San Francisco architecture; buildings rated "3" or better represent approximately the best 2% of the City's architecture, in the judgment of the inventory participants.

Five buildings on the project site are included in the inventory. Of these the 3 with the highest ratings are proposed for retention and integration into the project as a whole. These include No. 1 Montgomery St. and the banking hall at 25 Montgomery St., both of which were rated 3-D4-4. D4 indicates a Romanesque, classical root style. The 22-story building at 111 Sutter St. was rated as 4-D4-5.

The Foxcroft Building at 68 Post St. was rated 2-D7-3; D7 indicates "vernacular variations" on a classical root style. The Lyons Building at 130 Kearny St. was rated as 0-D7-0.

Surrounding the project site are a number of buildings listed in the 1976 Architectural Inventory. The highest rating is 5-F8-5, which was applied to the Halladie building at 130 Sutter St. (F8 is a "related variation" of the modern root style.) The Halladie Building has been officially designated a landmark building by the City. The French Bank Building at 110 Sutter St., is rated 3-D7-4, and all other buildings on Sutter St. opposite the site, except the 3-story building between the 110 and 130 Sutter Buildings, are included in the Inventory. The Sutter Hotel, the only building in the project block which is not included in the proposed project, is rated 1-F1-2; F1 denotes a commercial/utilitarian variation on the modern root style. The two buildings opposite the Sutter Hotel on Kearny St. are also included in the Inventory. South of the site on Post St. 3 buildings are included: the southeast corner of Kearny and Post Sts., the Mechanic's Institute at 57 Post St., and the Aetna Building in Crocker Plaza. The Aetna Building has a 4-F2-4 rating; F2 indicates an International/Miesian variation of the modern root style.

The Foundation for San Francisco's Architectural Heritage, through its consultants Charles Hall Page & Associates, has completed a recent, and as yet unpublished, architectural and historical survey of all downtown buildings./3/ Most buildings surveyed were scored according to 4 criteria: Architectural Significance, Historical-Cultural Significance, Environmental Significance, and Negative Alterations. Summary ratings from A to D were then assigned to each building on the basis of these scores.

At the project site, No. 1 Montgomery St., the banking hall at 25 Montgomery St., and the 111 Sutter Building are rated "A" in the survey, indicating "a particularly fine, early, rare, or environmentally irreplaceable type of resource . . . eligible for the National Register of Historic Places, State Inventory (of Architectural Resources), and probably City landmark status." The Foxcroft Building at 68 Post St. and the Lyons building at 130 Kearny St. are rated "B" in the survey, which indicates "a very good or conspicuous resource type or of significant environmental influence." The Insurance Building at 98 Post St. is rated "C", which indicates "resources which have

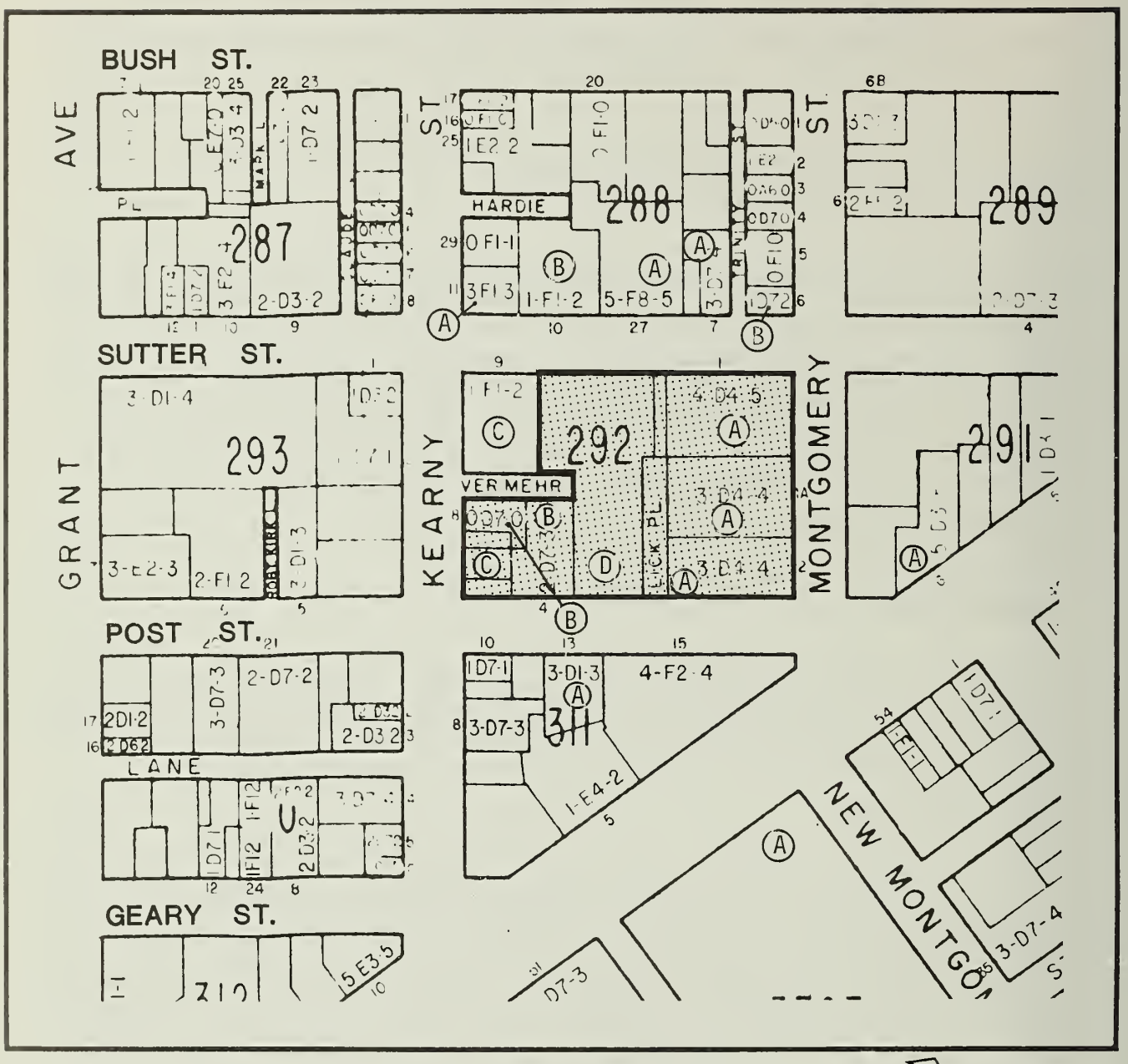
some merit and strength of identity" which may be considered "important elements of the urban fabric which support the character and setting of more significant resources." The Sutter Hotel, the only building in the project block which is not a part of the project, is also rated "C". The Lick Garage is rated "D", which identifies "buildings of no particular cultural or design merit with little historical significance."

The only building on the project site which is listed in Here Today, the 1968 catalogue and description of architecturally outstanding buildings built before 1920,/4/ is No. 1 Montgomery St. Nearby buildings which are described include the Hobart Building at 582 Market St., which was designed by Willis Polk in 1914, and the Palace Hotel at Market and New Montgomery Sts. The locations and survey ratings of the architectural resources on the site and in the vicinity are shown below (see Figure 28).

SITE VISIBILITY

The range of existing building heights on the site is from 3 to 22 stories. Only the 13-story tower at No. 1 Montgomery St. and the 22-story 111 Sutter Building are generally visible beyond the street segments immediately adjoining the site.

No. 1 Montgomery St. is visible from points on Market St. between Third St. and New Montgomery St., and west of Second St. The upper portions of the 111 Sutter St. building are visible from these areas as well as from points on Sutter St. between Grant Ave. and Sansome St. From other street-level view points, these 2 buildings are generally not visible because of intervening high-rise structures, including the Aetna Building on Market St. and 44 Montgomery St. The site is not generally visible from long-range viewpoints, such as Yerba Buena Island, the Marin vista point of the Golden Gate Bridge, or Telegraph Hill, due to intervening structures. The 111 Sutter Building is visible from points on Nob Hill, including upper floors of the Fairmont and Mark Hopkins Hotels.



NOTES:

Hyphenated designations are those of the Department of City Planning Architectural Survey (see p. 41 for explanation of symbols).

Circled designations are those for selected buildings in the Heritage Foundation Survey (see p. 42 and 43 for explanation of symbols).

PROJECT SITE

SOURCE: Environmental Science Associates, Inc.

FIGURE 28: ARCHITECTURAL RESOURCES ON THE PROJECT SITE AND IN THE VICINITY

SUNLIGHT AND SHADOW EFFECTS/5/

The existing structures on the project site and in the surrounding area create shadow effects that vary with cloud conditions, time of day, and season of the year. In late winter and early spring, and in late summer and early fall, morning shadows cast by these buildings affect Montgomery St., Post St., Kearny St., and Sutter St. At mid-day, the Aetna Building casts shadows on the site, and in the afternoon, the 111 Sutter Building and the No. 1 Montgomery Building cast shadows on Montgomery St.

During late spring and early summer mornings, 595 Market St. and 44 Montgomery St. cast shadows on the site. The existing 3- to 8-story buildings on the site cast relatively short mid-day shadows, primarily on Kearny and Sutter Sts. The Foxcroft Building and the Insurance Building on Post St. and No. 1 Montgomery St. cast afternoon shadows on Post St.; and Nos. 1 and 25 Montgomery St. and the 111 Sutter Building cast shadows on Montgomery St.

During late fall and early winter mornings, existing buildings on the site and in the vicinity cast shadows on all surrounding streets. At mid-day the Aetna Building casts shadows on Post St., Sutter St., and the project site, while the 111 Sutter Building casts shadows on Sutter St. Buildings on and adjacent to the project site cast late afternoon shadows on most surrounding streets.

NOTES - Urban Design Factors

/1/ Members include John Beach, Architectural Historian; Michael Corbett, Architectural Historian; John Frisbee, Regional Director, National Trust for Historic Preservation; Mrs. G. Bland Platt, President, San Francisco Landmarks Preservation Advisory Board; James Ream, Architect; Judy Waldhorn, Architectural Historian; Francis Whisler, Architect; Sally Woodbridge, Architectural Historian; William Coburn, Architect; Robert Hersey, Architect; Al Lanier, Architect.

/2/ San Francisco Department of City Planning, Map titled 1976 Architectural Inventory.

/3/ The Foundation for San Francisco Architectural Heritage, 1978, The San Francisco Historic Resources Inventory (unpublished).

/4/ Olmsted, Roger, and T.H. Watkins, 1968, Here Today, San Francisco's Architectural Heritage, Junior League of San Francisco.

/5/ A photographic shadow study of the existing site is available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St.

D. ECONOMIC, EMPLOYMENT, AND FISCAL FACTORS

ON-SITE COMMERCIAL FLOOR AREA/1/

The project site/2/ contains a total of about 576,000 net leasable sq. ft. of commercial space in 6 buildings, all of which are owned or leased by Crocker National Bank or Crocker Properties, Inc., a wholly-owned subsidiary of the Bank. Approximately 350,000 sq. ft. of this space (60%) are in office use in the 22-story 111 Sutter Building, the 13-story No. 1 Montgomery Building, and the banking hall at 25 Montgomery St. Another 140,000 sq. ft. (24%) of the commercial space on the site are used for public parking at the Lick Garage. The garage building also contains 18,600 sq. ft. of fully leased retail space, 3% of the commercial space of the site.

The remaining 76,100 sq. ft. (13%) of the net rentable commercial space at the site are in mixed retail and office uses, or are vacant. The 8-story Foxcroft Building at 68 Post St. is owned by the Regents of the University of California, and has been recently leased to Crocker under a 75-year ground lease which would permit project construction. The Foxcroft Building contains 33,000 net sq. ft., of which approximately 24,000 sq. ft. (74%) are leased for retail and office uses. The 6-story Lyons Building at 130 Kearny St. and the 6-story Insurance Building at 98 Post St. together contain 25,000 net sq. ft., of which 12,000 sq. ft. (48%) are leased. A portion of the Insurance Building (110-116 Kearny) is privately owned and leased to Crocker Bank, which has a right to acquire the property; 130 Kearny St. is owned by Crocker Properties.

The net leasable floor areas in the various uses at the project site are summarized below (see Table 2). Commercial rentals average $6 per sq. ft. per year at the Foxcroft Building, $3 at the Lyons and Insurance Buildings and $13 at the 111 Sutter Building. Retail rentals are somewhat higher than office rentals. In the Lick Garage building, retail rentals average about $13 per sq. ft. per year.

FLOOR AREA OCCUPIED BY CROCKER NATIONAL BANK

Crocker National Bank headquarters now occupies a total of approximately 501,000 net sq. ft. The bank owns and occupies about two-thirds of this space

TABLE 2: EXISTING NET LEASABLE COMMERCIAL FLOOR AREA AT THE PROJECT SITE

	Nos. 1 Montgomery, 25 Montgomery, and 111 Sutter Sts. (Lots 1, 1A, 2)*	Remaining Buildings on Project Site (Lots 3, 4, 5, 6, 7, 8)*	Total
Office	350,500	25,000	375,500
Retail/Restaurant	---	32,200	32,200
Parking	---	140,000	140,000
Unoccupied (office)	---	27,500	27,500
Total	350,500	224,700	575,200

*See Figure 2, p. 9.

SOURCE: Crocker National Bank

(323,500 sq. ft.) in 3 buildings, 2 of which are on-site, and leases the remainder (177,500 sq. ft.) in 5 other buildings off-site (see Table 3).

EMPLOYMENT AND TENANT MIX/1/

Project Site Employment

The project site houses about 1,620 employees. Of these, approximately 860 (53%) are Crocker employees and 520 (32%) are employees of other businesses at the 111 Sutter Building. Seventy-three other businesses employing about 240 (15%) persons occupy the Lick, Foxcroft, Insurance, and Lyons Buildings./3/ The largest of these employers is the Eddie Bauer Clothing Store (which moved to 220 Post St. in March 1978) with 33 employees. The Lick Garage has 25 employees. The other businesses that employ 10 or more persons are Bunker Ramo (11) and Qwik Printing (10). About half of the total jobs in these buildings are in small offices at the Foxcroft Building. Many of the office tenants are lawyers and accountants (see Table 4).

TABLE 3: NET LEASABLE FLOOR AREA OCCUPIED BY CROCKER NATIONAL BANK NORTHERN CALIFORNIA HEADQUARTERS

LOCATION	OCCUPIED NET ST. FT.	
Owned by Crocker		
No. 1 Montgomery	135,000	
111 Sutter Building	92,300	
Subtotal, Project Site	227,300	
79 New Montgomery, Offsite	96,200	
Total, Owned	323,500	
Leased by Crocker		Lease Status
California/Van Ness	7,000	Expires in 1998
44 Montgomery	14,000	Expires 31 December 1983
74 New Montgomery	104,000	May be terminated after 1 July 1981
Metropolitan Plaza	24,000	Expires in 1983
150 Post	28,500	May be terminated after 1 November 1983
Subtotal, Leased	177,500 *	
TOTAL	501,500	

*Crocker is negotiating for a short-term lease of an additional 60,000 sq. ft. in the 595 Market St. Building to accommodate employment growth and present overcrowding until the proposed project is available for occupancy.

SOURCE: Crocker National Bank

TABLE 4: ESTIMATED NON-CROCKER EMPLOYMENT AT THE PROJECT SITE*

	Office	Retail Goods & Services	Restaurant/Bar	Garage	TOTAL
111 Sutter	515	5	0	0	520
Lick	0	33	23	25	81
Foxcroft	104	7	5	0	116
Other	7	33	0	0	40
TOTAL	626	78	28	25	757

*Based on 1 office employee/200 net sq. ft, and 1 retail/restaurant employee/ 600 sq. ft.; derived from Yerba Buena Center Final Environmental Impact Report, Appendix D:1.

SOURCE: Environmental Science Associates, Inc.

Crocker National Bank Employment

Crocker National Bank employs 1,970 persons in Northern California headquarters activities, of whom approximately 860 are employed at the project site. An additional 375 employees work nearby at 79 New Montgomery St. The remaining 735 employees are housed in 5 leased, off-site locations shown above (see Table 3, p. 48).

The affirmative action policy of the Crocker National Bank states that qualified individuals should be employed at Crocker Bank without regard to race, color, religion, sex, age, national origin, disability, marital status or medical condition. All compensation, benefits, transfers, layoffs, and training programs are intended to provide equal employment opportunity. Two key elements of the plan are recruitment and cash compensation. Crocker recruits through colleges, high schools, newspapers (including minority newspapers), an internal job posting program, and community agencies (including minority and women's agencies). The personnel administration staff analyzes cash compensation--job responsibilities and salaries--to insure that compensation rates are consistent at different locations and that they are assigned without regard to race, color, religion, sex, age, national origin, disability, marital status or medical condition./4/

FISCAL FACTORS

Assessed Valuation and Property Taxes

The 1978-79 appraised value for tax purposes of the 11 parcels in the project site is $28.1 million. As provided under Proposition 13, this value is the 1975-76 appraised value, escalated 2% annually to 1978./5/ The assessed value of these parcels is 25% of their appraised value, or $7.0 million: $3.4 million in land value, and $3.6 million in improvements.

The 1978-79 total (composite) tax rate in San Francisco is $5.06 per $100 assessed value: $4.00 is the maximum allowed under Proposition 13 (1% of appraised value) for the City, County, education and special districts combined; and $1.06 is for payment of principal and interest on outstanding

bonds of these jurisdictions. At the $5.06 rate, the project site will generate approximately $355,000 in total property taxes in fiscal year 1978-79, distributed as shown in Table 5.

TABLE 5: DISTRIBUTION OF 1978-79 PROPERTY TAXES LEVIED ON THE PROJECT SITE

	1978-79 Tax Rate (Dollars per $100 Assessed Value)	Estimated Revenues (to Nearest $100)*	Percent
City and County of San Francisco	3.236	227,100	64
San Francisco Unified School District	1.222	85,700	24
San Francisco Community College District	0.222	15,600	4
Bay Area Air Quality Management District	0.006	400	1
BART (for bonds only)	0.374	26,200	7
TOTAL	5.060	355,000	100

*Based on total 1978-79 assessed valuation of $7,017,000 for 11 parcels.

SOURCE: Tax Collector, City and County of San Francisco.

Other Revenues and Costs

The existing 32,200 sq. ft. of retail space on the project site are estimated to have generated about $209,000 in 1977-78 sales tax revenues./6/ Of these revenues, the State is estimated to have received about $163,000; the City and County of San Francisco, $30,000; and BART, $16,000.

Both retail and office tenants, except the Bank itself, are subject to either the payroll expense tax or the business tax on gross receipts, whichever is larger./7/ Total revenues generated by businesses on the project site are difficult to estimate because actual payroll expenses on services rendered outside the City, which must be deducted, and gross receipts for each separate business are not known. The 1977-78 revenues are estimated to be roughly $89,000./8/

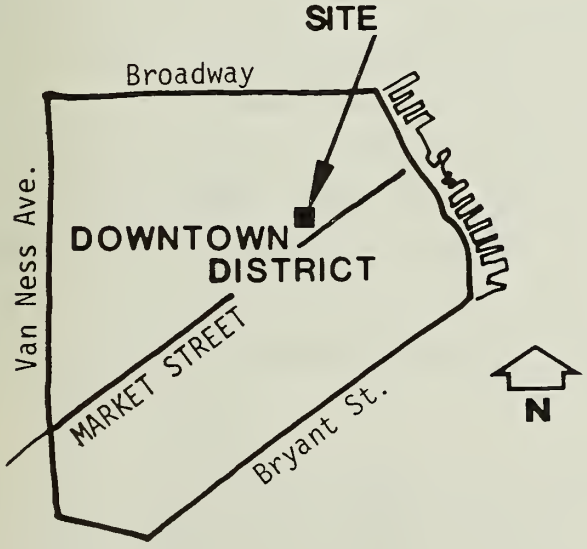
The City and County currently incur some costs to provide service to the site (fire and police protection, street lighting and cleaning and street and drain maintenance). These costs cannot be reliably quantified for individual office sites in San Francisco./9/

BART serves the project site and probably incurs net costs. The average deficit per BART trip is $1.25 per patron./10/ Operating costs, less fares and concession income, are funded primarily by the 1/2% BART sales tax. The estimated $16,000 in sales tax revenues generated by the site for BART would cover the annual deficit for about 26 BART commuters. Based upon a survey of Crocker employees presently employed at the Northern California headquarters office (see Table A-1, p.), 350 (22%) are estimated to be BART commuters.

LOCAL AND REGIONAL COMMERCIAL SPACE

Office Space in Downtown San Francisco

San Francisco has about 55 million gross sq. ft. of office space in the downtown area./11/ Approximately half of this space is in 56 major office buildings, with a minimum height of 10 stories or 118 ft., built in the Downtown District in the 30-year period since 1948.



About half of the total post-war high-rise office space (14 million sq. ft. out of 27 million sq. ft.) was built from 1970 through 1977 in 21 structures. An additional 9 office buildings are under construction, and another 6 buildings, including the project, have been formally proposed or are expected to be proposed and are in the process of environmental impact report preparation. If approved, these 15 buildings would add 9 million gross sq. ft. to existing post-war high-rise office space by 1982, an increase of 33% over existing high-rise space, and an increase of 16% over total existing

office space (see Table 6)./12/ It may be noted that an additional 3.8 million gross square feet of commercial development are under construction, proposed, or planned in low-rise buildings in the downtown and northern waterfront areas, and in downtown government and college buildings./13/

Thirty-seven of the 56 completed high-rise buildings in the Downtown District are located north of Market St. Nine of the 15 under construction or proposed would also be located north of Market St. and if all were built, 46 would be north of Market St. and 25 would be south of Market St.

The trend in office space development has been increasingly toward larger buildings. The rate of construction has increased from 240,000 sq. ft. annually in the 1950's to an average of 1.7 million sq. ft. annually in the 8-year period 1970-77. If the 15 buildings now under construction and proposed were completed by the end of 1982, the annual average rate of high-rise construction for the 5-year period 1978-1982 would be 1.8 million sq. ft. The 3 buildings, including this project, proposed for completion in late 1981 or 1982 together represent 3.1 million sq. ft. (see Table 6).

Office Vacancy Rates and Absorption

A shortage of office space currently exists in San Francisco. As of mid-1978, the office vacancy rates of 8.9% citywide and 5.5% downtown were among the lowest in the nation./14/ It is expected that the buildings now under construction and due to be completed in 1980 will readily absorb pent-up demand./14/ Some of the new buildings under construction are intended primarily for relocation and expansion of existing corporate or public agency quarters, but the majority of the space is to be leased on the open market. Some of the space now under construction has been preleased, but the majority has not./15/

One effect of the office space shortage in San Francisco has been to stimulate office development in suburban areas. San Mateo and Contra Costa Counties, in particular, are experiencing demand not only from expanding local businesses but also from San Francisco relocations. Shortage of space in San Francisco, lower rents and reduced employee commuter times in the suburbs, are cited as principal reasons for these relocations./16/

TABLE 6: POST-WAR OFFICE GROWTH IN DOWNTOWN SAN FRANCISCO*

Completed	Period Years	Number	Total Gross Square Feet (millions)	Building Average Square Feet (thousands)	Range Square Feet (thousands)	Annual Average Rate Square Feet (thousands)	Range # of Stories
1945-1949	5	3**	0.5	178	100 to 250	107	11 - 14
1950-1959	10	10	2.4	240	138 to 430	240	7 - 25
1960-1969	10	22	10.3	468	119 to 1,771	1,029	10 - 52
1970-1977	8	21	14.1	671	100 to 1,375	1,761	11 - 48
Subtotal Built	--	56	27.3	--	--	--	--
Under Construction***							
1978-1980	3	9	3.0	420	144 to 728	1,017	15 - 45
Applied For+							
1981-1982	2	3	2.7	642	500 to 1,750	1,338	10 - 33
To Be Proposed++							
1982	1	3	3.1	1,046	775 to 1,306	3,136	42 - 48
Subtotal Pending	--	15	8.8	--	--	--	--
TOTAL		75	36.1				

*The Appendix is based on a telephone communication with C. Gill, Major Project Review, Department of city Planning, 30 November 1978 and on lists compiled by the San Francisco Department of City Planning which are available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St.
**All 3 constructed in 1948.
***Under construction: 505 Sansome St., 601 Montgomery St., Hibernia Bank (California and Front Sts.), 444 Market St., 180 Montgomery St., 595 Market St., 333 Market St., Howard and Main Sts., and Four Embarcadero Center.

+Proposed and under EIR review: 775 Market St., Federal Reserve Bank and Pacific Gateway, Crocker National Bank headquarters, 101 California St. and One Sansome St.
++Conceptual planning underway: Daon Building, 456 Montgomery St., 301 Howard St., and 150 Spear St. It may also be noted that additional low-rise commercial and office space is proposed including 840,000 sq. ft. in Levi Plaza north of Downtown, and about 250,000 sq. ft. in the Golden Gateway Commons.

SOURCE: Department of City Planning, City and County of San Francisco.

In the Oakland-East Bay area, office development and absorption increased in 1977 and 1978, with the vacancy rate declining from about 12% to 5%. The construction rate is about 300,000 sq. ft. per year. Demand appears to stem almost entirely from local growth with little due to San Francisco relocations. However, the success of recent projects in Oakland could increase future competition between Oakland and San Francisco for office space users. Rents are considerably lower in new office high-rises in Oakland compared with San Francisco, about $10 per sq. ft. annually./17/

Office Rents/18/

Office rents have increased sharply in the past 2 years as the office supply in the City and region has tightened, and as land and energy costs have escalated. Quality new space downtown leases for $14 to $22 per sq. ft. annually ($1.15 to $1.80 monthly). Somewhat older downtown buildings, typically those built in the 1960s, lease for $11 to $13.50 per sq. ft. annually. In contrast, San Francisco offices not located downtown, and offices in the suburbs, lease for $7 to $9 per sq. ft. Unrenovated, pre-war, downtown buildings lease for around $3 to $6 per sq. ft., and renovated, pre-war downtown buildings typically rent for $8 to $9 per sq. ft. per year.

Financial District Retail Space/19/

No inventory of existing Financial District retail space by type and occupancy is available. According to commercial brokers there is presently little retail space available for small restaurant and service businesses, such as camera, printing, drug and card shops. There is high demand for spaces of 1,000 sq. ft. or less, particularly for restaurant uses, which command high annual rents of $36 or more per sq. ft. Larger areas, up to 3,000 sq. ft., rent for $16 to $24 per sq. ft. Although large retail projects, such as the Embarcadero Center and One Market Plaza, find it difficult to attract clothiers, locations near Union Square are in high demand for specialty and quality apparel stores.

NOTES - Economic, Employment, and Fiscal Factors

/1/ Unless otherwise referenced, information in this section is based upon the following communications: R. Short, Jr., Senior Vice President, Crocker National Bank, written communication, 31 August 1978; L. Enersen, Assistant Vice President, Crocker National Bank, telephone communications, 10 October 1978 through 21 December 1978.

/2/ The project site consists of Assessor's Block 292, less Parcel 9, the Sutter Hotel site (See Figure 2, p. 8).

/3/ A list of on-site retail and office tenants prepared by Crocker National Bank is available for public review at the Department of City Planning, Office of Environmental Review.

/4/ Crocker National Corporation, Affirmative Action Plan, 1977-78, Vol. 1.

/5/ Appraisal for tax purposes is set at the 1975-76 market value escalated 2% annually unless the property is sold. Appraised value is determined as of 1 March preceding the fiscal year.

/6/ Based upon 6.5% sales tax and assuming average sales of $100 per sq. ft. of restaurant/retail space, resulting in $3.2 million in gross receipts.

/7/ An explanation of San Francisco's business taxes excerpted from Detailed Findings; Impact of Intensive, High-Rise Development in San Francisco, Final Report, June, 1975, San Francisco Planning and Urban Renewal Association, is available for public review at the Office of Environmental Review, Department of City Planning. The payroll tax rate is 1.1%. Banks and insurance companies are exempt.

/8/ Based on $85,800 from payroll expense tax and $3,200 from gross receipts tax. Assumptions:

Payroll Expense Tax: 650 office employees (many self-employed) @ $20,000 per year for total office payroll of $13,000,000; 60 percent eligible for tax; tax rate of 1.1 percent.

Gross Receipts Tax: $3.2 million gross receipts in retail/restaurant space; tax rate of $1 per $1,000.

/9/ R. Evans, Director of Public Works, telephone communication, 27 April 1979.

/10/ W. Belding, Senior Economic Analyst, Statistics Department, BART, telephone communication, 9 September 1978.

/11/ The 55 million sq. ft. estimate of existing inventory is based upon the 50 million sq. ft. identified in a 1974 SPUR-sponsored survey (made as background for the analysis of high-rise development cited in footnote 7) plus the 5 million sq. ft. of high-rise office space in 7 buildings completed in 1976 and 1977.

/12/ Table 6 is based on listings of projects compiled by the San Francisco Department of City Planning which are available for public review at the Department of City Planning, Office of Environmental Review. The lists are

entitled "Major Office Buildings Constructed in Downtown San Francisco, 1945-1977" and "Major Office Buildings Under Construction or Proposed, Downtown San Francisco, 1978". An addendum to the Planning Department list entitled "Major Office Buildings To Be Proposed, Last Quarter, 1978" is also on file.

/13/ Another unpublished list of development in San Francisco was compiled by the Department of City Planning for purposes of transportation planning. The list projects a total of 20.1 million gross sq. ft., 8.8 million more than the 11.3 million shown in Table 6. Included in the transportation planning list but not in Table 6, which includes only large downtown office buildings, are the following:

	Million Gross Sq. Ft.
Office buildings completed 1976 and 1977	5.3
Other uses, locations, and/or office low-rise*	2.0
Six buildings known to be in planning stages, pre-EIR**	1.8
Less discrepancies between original applications and projects as built	-0.3
	8.8

*Retail, college and residential uses and northern waterfront as well as downtown (including Saks, Nieman-Marcus, Pier 39, Levi's Plaza, Golden Gateway Commons, Golden Gate University, City College); does not include 925,000 sq. ft. in Executive Park, a development under construction near Candlestick Park.
**Largest is a 726,000 gross sq. ft. federal office building proposed for 4th St.

/14/ Security Pacific Bank, 30 June 1978, Northern Coastal Monthly Summary of Business Conditions. The vacancy rate in 29 major buildings built since 1965 was still lower, at 2.2% in October, 1977. (San Francisco Bay Area Transportation Terminal Authority, Working Paper 3 - Joint Use Market and Financial Implications, 27 June 1978).

/15/ D. Bixby, Vice President, Milton Meyer & Company, telephone conversation, 12 October 1978.

/16/ Information in this paragraph is based upon 2 newspaper articles: Reinke, Janet, "The Squeeze is on Office Space, Too", San Mateo Times, 7 April 1978; and Weil, Jeffrey S., Grubb and Ellis, "Office Space on Increase in Contra Costa County", San Francisco Examiner and Chronicle, 20 August 1978, p. 33.

/17/ J.L. Guillory, Vice President, Grubb & Ellis Commercial Brokerage Company, letter communication and attachment, 27 December 1978.

/18/ Information in this paragraph is based upon Working Paper 3, cited in Footnote 15, upon telephone communications with D. Bixby, op. cit., with N. Spencer, Senior Sales Consultant, Coldwell Banker, 16 October 1978, and upon a

personal communication with J. Stanisch, Senior Real Property Appraiser, Assessor's Office, City and County of San Francisco, 17 October 1978.

/19/ Information in this subsection is based upon telephone communications with L. Pflueger, General Manager, Downtown Association, 27 November 1978; R. Whitman, Coldwell Banker, 15 December 1978; and R. Redwine, Edward M. Plant, Jr., Inc., 18 December 1978.

E. TRANSPORTATION, CIRCULATION, AND PARKING/1/

STREET AND FREEWAY SYSTEM

The site is served by local streets and by portions of the regional freeway system (see Figure 1, p. 7). Access to the freeways connecting with the East Bay, San Francisco Airport, and Peninsula is provided by pairs of ramps about one-half mile to the northeast (Clay-Washington), about one-half mile to the southeast (Main-Beale) and about one-half mile to the south (Harrison-Bryant). Further information on the street and freeway system is included in Appendix A, p. 187.

The site is within the Downtown Core automobile control area designated in the Downtown Transportation Plan of the Transportation Element of the San Francisco Comprehensive Plan./2/ This area is described in the Plan as "that intensely populated area which functions as a financial, administrative, shopping and entertainment center where priority must be given to the efficient and pleasant movement of business clients, shoppers and visitors; where a continuing effort should be made to improve pedestrian, transit and service vehicle access and circulation; where priority for the use of limited street and parking space within this core should be available for these functions; and where a continuing effort should be made to reduce the impact of the private commuter vehicle." In the vicinity of the project site, Market, Post, Sutter, Kearny, and Montgomery Sts. are designated transit arterial streets in the Downtown Transportation Plan./3/

The intersections of Montgomery and Post Sts., Post and Kearny Sts., Kearny and Sutter Sts., and Sutter and Montgomery Sts. are controlled by traffic signals. The signals operate on a pre-timed basis with green time allocations in proportion to peak and off-peak traffic volumes. The signals on Montgomery

St. at Post St. and at Sutter St. operate as part of a pedestrian "scramble" system on weekdays. At those two intersections, a portion of the green time is used only for pedestrian movements, thus reducing the green time available for vehicle movements.

Existing traffic volumes on nearby streets are shown in Table 7. The highest volumes during the peak hour as well as the maximum 8-hour and the 24-hour periods are on the streets leading to the freeways. Three of the 4 streets surrounding the project site have the lowest volumes in the area. A capacity analysis of the 4 intersections adjoining the project indicates that 3 -- Montgomery and Sutter Sts., Post and Kearny Sts., and Kearny and Sutter Sts. -- are operating at vehicular Level of Service C or better, and that 1 -- Post and Montgomery Sts. -- is operating at vehicular Level of Service D (see Table A-1, p. 188 for definitions and volume-capacity ratios for each vehicular Level of Service, and Table 8 for the peak-hour volume-to-capacity ratios).

TABLE 7: ESTIMATED VEHICLE TRAFFIC VOLUMES IN THE VICINITY OF THE PROJECT SITE IN 1978*

Street	Section	24 Hour	Max. Peak Hour**	8 Hours
Montgomery	Sutter to Post	6,500***	590	3,700***
Post	Kearny to Montgomery	4,000***	360	2,200***
Kearny	Post to Sutter	21,200	1,910	12,000
Sutter	Montgomery to Kearny	9,600***	860	5,400***
Fourth	Folsom to Harrison	21,800	2,160	12,400
Beale	Market to Mission	8,000	980	4,800
Main	Mission to Market	13,400	1,520	7,980
Clay	Front to Davis	29,200	2,290	16,370
Washington	Off-ramp to Battery	15,600	1,970	9,380

*The traffic volume data shown are derived from historical data for 1976 and 1977 obtained from the San Francisco Department of Public Works, Bureau of Traffic Engineering, and from machine traffic counts made by TJKM, transportation consultants, on various weekday dates in 1978. Estimates of some 1978 traffic volumes were made by TJKM based on manual intersection county data made by TJKM on 25, 27, and 28 September 1978, and on the historical data for 1976 and 1977.
**Peak hour is between 4:00 and 6:00 p.m. with the exception of Washington and Main Sts. where the peak hour is between 7:00 and 9:00 a.m.
***Estimated from peak-hour counts and historical 24-hour counts.

TABLE 8: ESTIMATED PEAK HOUR VOLUME-TO-CAPACITY RATIO SUMMARY AT INTERSECTIONS IN THE VICINITY OF THE PROJECT SITE IN 1978

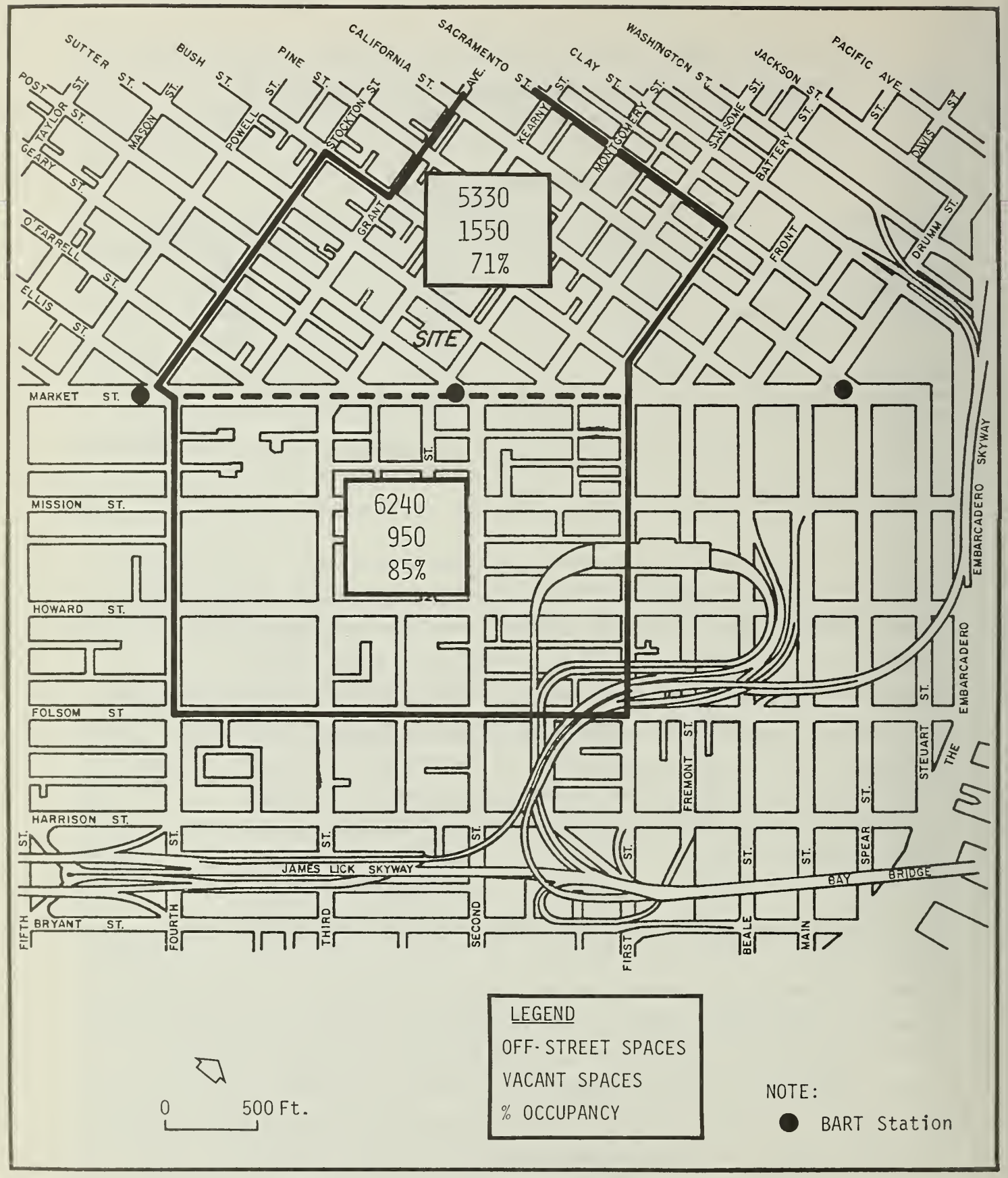
Intersection	Service Volumes (V/L/H)* Existing	Capacity (Level of Service E)**	v/c*** Ratio
Montgomery and Post	306	340	0.90
Post and Kearny	547	880	0.62
Montgomery and Sutter	331	630	0.53
Sutter and Kearny	597	880	0.68

*Vehicles per lane per hour.
**See Appendix A, p. for definitions of Levels of Service.
***Volume/capacity.

PARKING AVAILABILITY

A survey analysis of existing long-term (greater than 6 hours), commercially available, off-street parking in the area bounded by Battery, First, Folsom, Fourth, Stockton, Bush, Grant and Sacramento Sts. was conducted (see Figure 29)./4/ In this area there is a total of 11,600 long-term, commercially available off-street spaces, of which 2,500 are vacant on a daily basis. This is equivalent to an average occupancy of approximately 78%. Approximately 60% of the vacant spaces are located north of Market St. The Lick Garage on the project site has 450 spaces, which are used by approximately 600 vehicles per day; about 270 of the spaces are used by parkers on monthly leases.

There are 30-minute metered parking spaces, restricted to commercial use (truck loading/unloading) from 7:00 a.m. to 1:00 p.m., on the Post St. and the Sutter St. block faces surrounding the project. The Sutter St. spaces are in a tow-away zone between 4:00 p.m. and 6:00 p.m. The Kearny St. curb adjacent to the project site is a bus-stop zone along its entire length, marked as a 24-hour tow-away zone. The Montgomery St. curb on the project-site side of the street is a yellow, commercial loading zone, with no marked spaces along its entire length. It is a tow-away zone from 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.



SOURCE: TJKM, Transportation Consultants

FIGURE 29: PARKING SURVEY STUDY AREA AND RESULTS

PEDESTRIAN MOVEMENTS

The sidewalks and crosswalks serving the project site have high levels of pedestrian activity during the morning and evening peak periods. Table 9, p. 62, shows 15-minute pedestrian flows and sidewalk levels of operation on the sidewalks surrounding the project site. These sidewalks are sufficiently wide to allow the peak pedestrian flow to operate in Level of Service A conditions (see Appendix Table A-2, p. 189, for a description of pedestrian levels of service). Pedestrian activity around the site during the peak periods of 7:00 to 9:00 a.m. and 4:00 to 6:00 p.m. is directed primarily from and to transit and parking facilities. A high level of pedestrian activity occurs at the intersection of Post and Montgomery Sts., due primarily to the presence of a bus stop on Post at Montgomery, serving the Muni No. 38 Geary Express, and to 2 Montgomery Station Market St. Subway entrances. The entrances to the Lick Garage from Kearny, Post and Sutter Sts. (main entrance and exit on Kearny via Ver Mehr Pl.), and bus stops on the 3 streets serving the No. 1, 2, 3, 15, 30, 30X, 38X and 45 lines of the Muni, are primary contributors to the level of pedestrian activity on these streets. The pedestrian flows during the p.m. peak are more intense than those in the a.m. peak. Noon-hour flows are not as intense as the p.m. peak flows. Crosswalk flows at the 4 intersections at the corners of the project-site block are high during the 4:30 to 5:30 p.m. vehicle traffic peak hour. Pedestrians crossing against the signals at the Montgomery Street intersections as well as during the all-pedestrian parts of the signal cycles maintain an almost continuous pedestrian flow across the intersections during the p.m. peak hour. The potential for vehicle/pedestrian conflicts is high at these 4 intersections during the peak periods and noon hour.

TRANSIT SERVICE

The project site is served by 7 Muni electric trolley and motor coach lines providing radial service to and from the Downtown area and by 5 light-rail vehicle lines which will use the Montgomery Station effective in 1979./5/ Regional service is provided to the East Bay by the Bay Area Rapid Transit District (BART) from the nearby Montgomery Station, and by A-C Transit motor coaches from the Bay Bridge Transit Terminal on Mission St. between Fremont and First Sts.

TABLE 9: PEAK 15-MINUTE PEDESTRIAN VOLUMES IN 1978 (Project Side of Street)

Sidewalk	Effective Width*	Volume** A.M.	Volume** P.M.	Rate*** A.M.	Rate*** P.M.	Pedestrian Level of Service+ A.M.	Pedestrian Level of Service+ P.M.
Post St.	7 ft.	310	310	3	3	A	A
Sutter St.	5 ft.	250	350	3	5	A	A
Kearny St.	6 ft.	440	520	5	6	A	A
Montgomery St.	6 ft.	260	350	3	4	A	A

*Effective widths take account of poles, planter boxes, people standing at store windows, etc.
**Pedestrians per 15 minutes.
***Pedestrians per foot of sidewalk width per minute.
+See Appendix A, p. 189 for definitions and volume criteria.

Service to the Peninsula is provided by the Southern Pacific Transportation Company (SP) from a train terminal at Fourth and Townsend Sts., by the San Mateo County Transit District (SamTrans), which has bus routes and stops along various streets in the area, primarily on Mission St. west of First St., and by BART, which effects transfers to SamTrans routes at the Daly City Station. The Golden Gate Bridge Highway and Transit District (Golden Gate Transit) provides peak-period service to Marin and Sonoma counties from stops on Pine and Sansome Sts., 3 blocks east of the site, and on Howard Street, two blocks south of the site, and ferry service to terminals in Larkspur and Sausalito from the Ferry Building. The Tiburon Ferry Service, operated by Harbor Carriers, Inc. also terminates at the Ferry Building.

Although not traditionally considered as transit, car pooling is becoming a substantial form of para-transit. Golden Gate Transit operates a van-pooling program to North Bay areas not served by existing motor coach routes. The RIDES car-pooling program, operated under the auspices of a nonprofit, publicly funded corporation, provides consulting and matching services to help establish Bay Area van pools.

The transit agencies, except Muni and BART, are operating during their peak hours at less than 100% of their seated capacity. Muni and BART exceed their seated capacities during peak hours, but operate at less than 100% of total

capacity. Although the other agencies operate at less than seated capacity during a 1-hour period, specific routes were observed to experience peak-of-the-peak loadings in excess of seated capacity for periods from 5 to 30 minutes during the peak hour. In the experience of most agencies, the p.m. peak is more intense than the a.m. peak. (See Appendix A, p. 198 for a more detailed breakdown of transit ridership characteristics.)/6/

NOTES - Transportation, Circulation, and Parking

/1/ A report on the traffic, circulation, and parking analysis made by TJKM, transportation consultants, is on file with the Department of City Planning, Office of Environmental Review.

/2/ San Francisco City Planning Commission, Resolution 6834, 27 April 1972, Comprehensive Plan, Transportation Element, p. 25.

/3/ See Note /2/, p. 40, for a definition of major thoroughfares.

/4/ The boundaries of the parking survey area were selected on the basis of parking garage and lot locations and the ease of access to the site from these locations. All garages and lots within the study area are within a 10-minute walk of the project site. The parking inventory for the downtown area was supplied by the Public Works and Planning Departments through E. A. Green, Transportation Planner, Department of City Planning, 15 August 1977. A supplementary survey was conducted by TJKM on the afternoons of 1 and 5 June 1978 (Thursday and Monday), and 20 and 28 September 1978 (Wednesday and Thursday). The latter two studies were conducted after the start of excavation for the George R. Moscone Convention Center (10 August 1978) and the associated loss of all parking spaces in the Third- Fourth-Howard-Folsom St. block and some in the block to its north.

/5/ These lines presently operate with streetcars on the surface of Market Street.

/6/ Observations were made by TJKM on the afternoons of 16 and 20 November (Thursday and Monday), and on the mornings of 17 and 20 November, 1978 (Friday and Monday).

F. METEOROLOGY AND AIR QUALITY

WIND

Meteorological characteristics such as wind patterns and thermal inversions determine the movement and dispersion of air pollutants. Northwesterly and westerly winds are the most frequent and the strongest winds at all seasons in San Francisco. (In meteorology, a northwest wind blows from the northwest.)

Wind frequencies and speeds are highest in the summer. Northwest winds occur from 12% to 39% of the time, exceeding 13 miles per hour (mph) 35% of the time and 25 mph 3% of the time. West winds occur from 15% to 40% of the time, exceeding 13 mph 29% of the time and 25 mph 7% of the time.

Wind tunnel tests of localized wind speeds and directions at the project site and vicinity were conducted under conditions of northwest and west winds./1/ The study included tests of existing conditions, conditions with the proposed project, and conditions with alternative projects. Wind speeds are described according to the following scale: low; moderately low; moderate; moderately high; high; and very high./2/

Under existing site conditions, wind speeds during northwest wind conditions range from low to moderate, except at the west side of the intersection of Kearny and Sutter Sts. and at the Crocker Plaza (corner of Post and Market Sts.), where wind speeds are moderately low to moderately high. West wind speeds range from low to moderately low, except at the east corner of the intersection of Montgomery and Post Sts. where wind speeds are high, and at the Crocker Plaza where speeds are moderate.

AIR QUALITY

The Bay Area Air Quality Management District (BAAQMD; formerly the Bay Area Air Pollution Control District, BAAPCD) operates an air quality monitoring station approximately 2 miles to the west of the site. A 3-year summary of the data collected at this station and the corresponding air quality standards appears in Table 10.

San Francisco's air quality, in general, is the least degraded of all the developed portions of the Bay Area. The prevailing westerly and northwesterly winds tend to carry pollutants from the City to the East Bay and South Bay. Annual fluctuations in air quality are due to a combination of meteorological factors, which vary unpredictably, and pollutant emissions, which have been decreasing in the Bay Area and are expected to continue to do so in the near future. Highest annual pollutant concentrations in San Francisco, while exhibiting alternating fluctuations due to meteorology, have shown an overall improvement during the 1971 - 1978 period. Annual numbers of violations of

TABLE 10: SAN FRANCISCO AIR POLLUTANT SUMMARY 1976-1978

STATION: 939 Ellis Street, San Francisco

POLLUTANT	STANDARD	1976	1977	1978
OZONE (O_3) (Oxidant)				
1 hour concentration (ppm)*				
Highest hourly average	0.08**	0.13	0.05	0.11
Number of standard violations		2	0	4
CARBON MONOXIDE (CO)				
1 hour concentration (ppm)				
Highest hourly average	35**	22	16	17
Number of standard violations		0	0	0
8 hour concentration (ppm)				
Highest 8-hour average	9**	11.0	8.9	9.4
Number of standard violations		4	0	1
NITROGEN DIOXIDE (NO2)				
1 hour concentration (ppm)				
Highest hourly average	0.25***	0.25	0.21	0.30
Number of standard violations		1	0	4
SULFUR DIOXIDE (SO_2)				
24 hour concentration (ppm)				
Highest 24-hour average	0.05***,+	0.053	0.035	0.024
Number of standard violations++		1	0	0
SUSPENDED PARTICULATES (SP)				
24 hour concentration (ug/m^3)+++				
Highest 24-hour average	100***	136	105	128
Number of standard violations++		8	1	1
Annual concentration (ug/m^3)				
Annual Geometric Mean	60***	55	41	42
Annual violation		No	No	No

*ppm: parts per million.
**Federal standard.
***California standard.
+The sulfur dioxide standard is considered to be violated only if there is a concurrent violation of the ozone (oxidant) or the suspended particulate standard at the same station.
++Number of observed violation days (measurements taken approximately once every six days in 1977; once every three days in 1976 and 1975).
+++ug/m^3: micrograms per cubic meter.
SOURCE: Bay Area Air Quality Management District (formerly Bay Area Air Pollution Control District), Contaminant and Weather Summaries.

air quality standards, while exhibiting similar fluctuations, have not shown any clear overall trend during the same period. In 1978 a total of 10 violations of the ozone, carbon monoxide, nitrogen dioxide, and particulate standards occurred, following a year in which only 1 violation (of the particulate standard) occurred.

The Bay Area Air Basin has been designated by the California Air Resources Board as a non-attainment area for ozone (oxidant), carbon monoxide, and particulate (i.e., the standards for these pollutants are now and are expected to continue being violated). A regional Air Quality Plan was recently adopted which establishes control strategies to attain and maintain the standards by 1982 or 1987./3/

NOTES - Meteorology and Air Quality

/1/ Environmental Impact Planning Corporation, November 1978, Microclimate Impact Study on the Proposed Crocker National Bank Headquarters, San Francisco, California. The complete test results are available for review at the Department of City Planning, Office of Environmental Review, 45 Hyde St.

/2/ These ranges do not describe actual wind speeds, but percentages of the calibration wind speed. The calibration wind speed is the actual wind speed at the downtown San Francisco Weather Station. The percentages of the calibration wind speeds which correspond to the ranges are shown in the Microclimatic Study cited in Note /1/.

/3/ Association of Bay Area Governments, BAAQMD, and Metropolitan Transportation Commission, January 1979, 1979 Bay Area Air Quality Plan, San Francisco Bay Area Environmental Management Plan. The Federal Clean Air Act Amendments of 1977 mandate that the ozone and carbon monoxide standards be attained by 1982, although a five-year extension is possible, and that the particulate standard be attained by 1987.

G. NOISE

The noise environment of the project site is dominated by traffic noise emanating from Sutter St., Kearny St., Post St., Montgomery St., and to a lesser extent Market St. Trucks, buses, automobiles, and emergency vehicles are major contributors. The noise level at the site varies directly with the amount of traffic activity; noise levels are higher during the day than during the night. The Transportation Noise Section of the Environmental Protection Element of the Comprehensive Plan of San Francisco contains a map showing the

Ldn/1/ noise levels along the major thoroughfares in San Francisco. The noise exposure levels near the proposed site are shown on the map to be as follows:

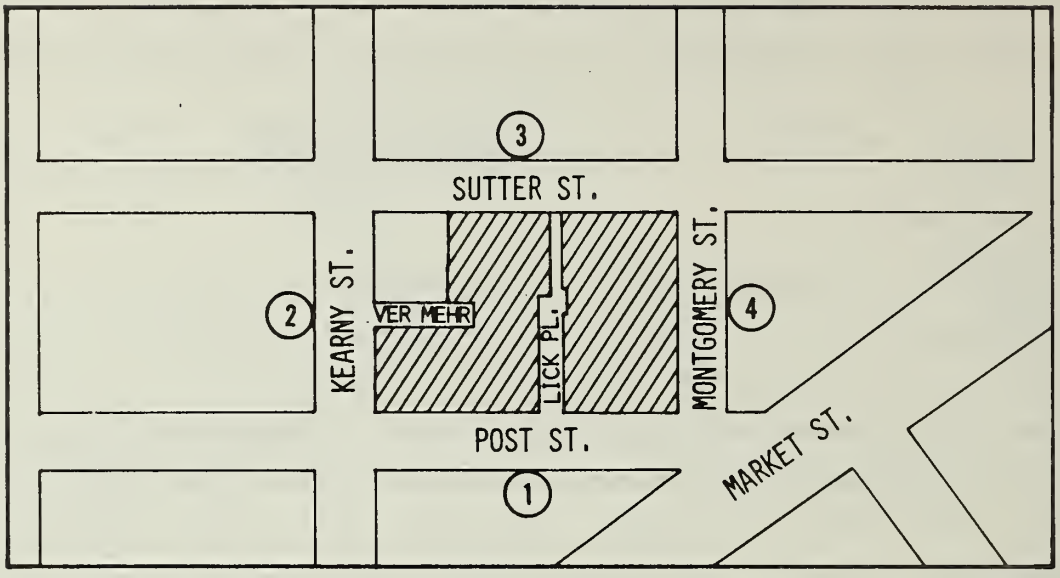
Street	Ldn 50 Feet From Center of Street
Montgomery	65 dBA
Kearny	75
Sutter	75
Post	70
Market	75

The transportation noise contours contained in the Transportation Noise Element of San Francisco's Comprehensive Plan take into account only the noise generated by the street of interest. The contours do not take into account the "urban-canyon" effect. This effect occurs along downtown streets flanked by tall buildings where noise energy can build up due to multiple reflections. When the contribution of other streets and the "urban-canyon" effect are accounted for, one would expect that the noise level in the area would be about the same everywhere and would range from 70 to 75 Ldn.

Noise measurements were made at 4 locations during the afternoon of Monday, 27 November 1978 (see Figure 27)./2/ These data (see Table 11, p. 69) provide a base for comparison with noise levels which are expected to occur during construction. As can be seen from the table, the noise environments at all locations are similar, with noise levels along Kearny and Sutter Sts. slightly higher than those along Post and Montgomery Sts. due to the high percentage of trucks and buses using the former streets. The noise environment along Post St. during the measurements was influenced by one jet aircraft flyover which raised the noise level above normal. Noise from Market St. also contributed somewhat at this location. At Site No. 4 the noise from vehicles on Market St. also contributed to the noise environment. In summary, these noise levels are typical of a downtown office/business area and are determined primarily by traffic. (See Appendix B, p. 200, for additional information regarding the noise survey.)

NOTES - Noise

/1/ Ldn: day/night average. The average equivalent A-weighted sound level during a 24-hour day, obtained after the addition of 10 decibels to sound levels in the night before 7 a.m. and after 10 p.m. Refer to Table 11, p. 69,



SOURCE: Charles M. Salter Associates, Inc.

FIGURE 30: NOISE MEASUREMENT LOCATIONS

and to Appendix B, p. 200, for other definitions and a discussion of environmental noise concepts.

/2/ Charles M. Salter Associates, Inc., November 1978, Noise Study for Crocker National Bank Headquarters EIR.

H. ENERGY

The Pacific Gas and Electric Company furnishes electricity and natural gas to the City and County of San Francisco, and steam to much of the Downtown District. Existing gas and steam distribution mains and underground electric facilities are located along the streets bounding the project site. Electrical service is provided to the project site from the Fremont and Folsom St. Substation, which has a maximum capacity of 250 megawatts./1/ Natural gas usage is no longer restricted for new customers (except for industrial boilers) by the California Public Utilities Commission./2/

Current energy use at the project site cannot be reliably quantified due to the unavailability of historical data for the 73 firms occupying space to be

TABLE 11: NOISE LEVELS AT THE PROJECT SITE

Measurement Location	Day and Time	Noise Levels (dBA)* L_1	L_{10}	L_{50}	L_{90}	L_{99}	L_{eq}	Comments
Site 1: South side of Post St. at building setback line and between Aetna Building and 57 Post St.	Monday 11/27/78 2:25 to 2:40 p.m.	83	72	67	65	63	72	L_1 controlled by a jet aircraft flyover. The other levels are dominated by traffic on Post and to a lesser extent on Montgomery St.
Site 2: West side of Kearny St. at building setback in front of 133 Kearny, across from entrance to Lick Garage.	Monday 11/27/78 2:55 to 3:10 p.m.	79	74	69	67	65	71	Noise environment is dominated by traffic on Kearny St., particularly diesel trucks and buses.
Site 3: North side of Sutter St. at building setback opposite Lick Pl.	Monday 11/27/78 3:20 to 3:35 p.m.	81	73	68	64	62	71	Noise environment is dominated by traffic on Sutter St., particularly buses.
Site 4: East side of Montgomery St. at building setback in front of 44 Montgomery St.	Monday 11/27/78 3:45 to 4:00 p.m.	78	73	69	66	65	70	Noise environment is dominated by traffic on Montgomery and Market Sts.

*The dBA is the unit of sound level referenced to the sound pressure corresponding to the threshold of hearing. The dBA (A-weighted decibel) accounts for the way the human ear responds to sounds of different frequencies. The L_1, L_{10}, L_{50}, L_{90} and L_{99} represent the A-weighted sound levels exceeded 1%, 10%, 50%, 90% and 99% of the measurement period, respectively. Equivalent sound level (L_{eq}) is the steady A-weighted level which would generate the same acoustic energy as the time-varying environmental noise. Refer to Appendix C for a discussion of environmental noise concepts.

SOURCE: Charles M. Salter Associates, Inc.

demolished, and the lack of general energy use factors for buildings constructed prior to adoption of State Energy Commission standards.

NOTES - Energy

/1/ R. Fohlen, Industrial Power Engineer, Pacific Gas and Electric Company, telephone communication, 1 November 1978. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/2/ California Public Utilities Commission, 1978, Decision No. 89337.

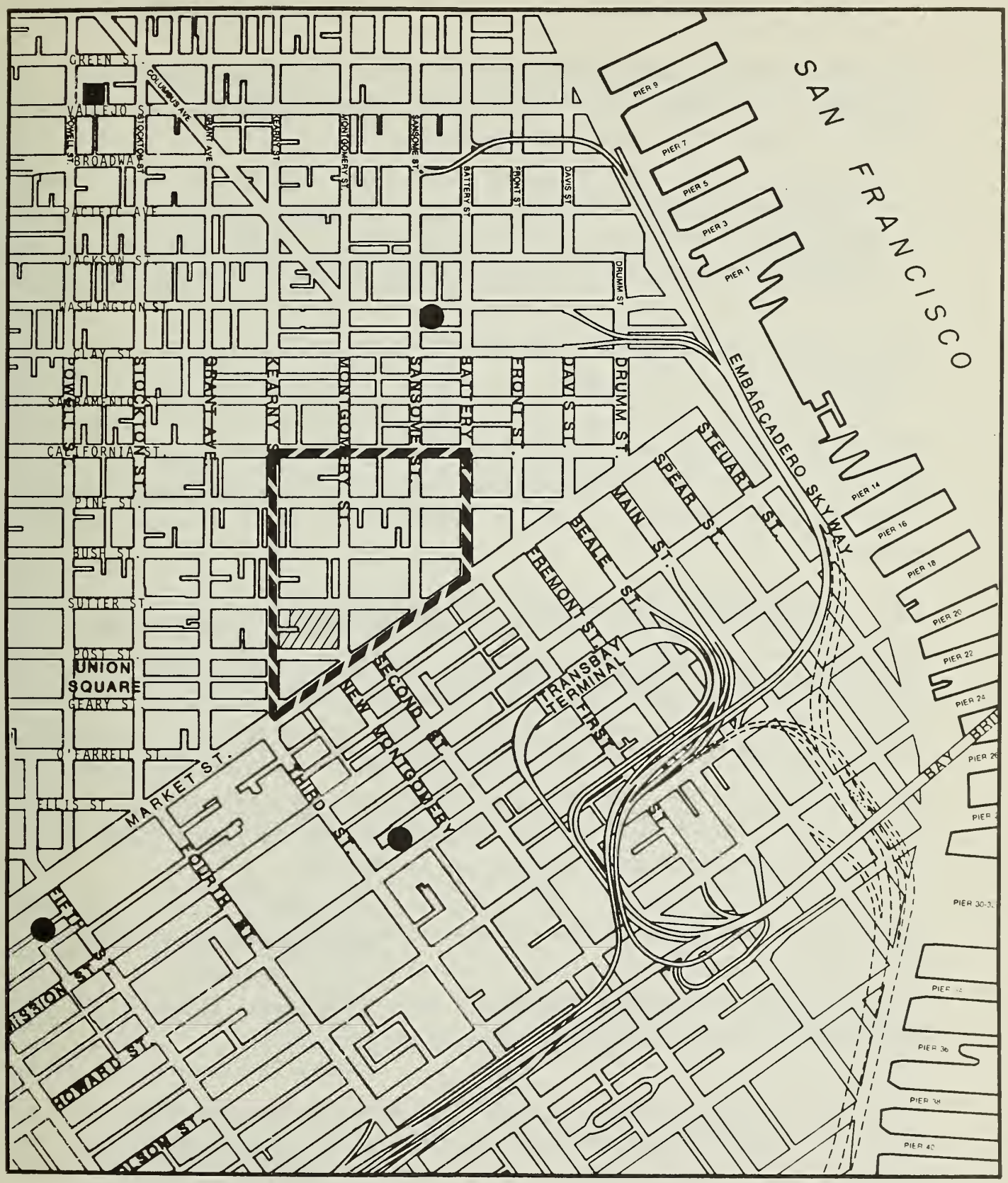
I. COMMUNITY SERVICES AND UTILITIES

The project site is located in the southwest corner of Reporting Area 356 in the San Francisco Police Department's Central District. The nearest police station is Central Station, at 766 Vallejo Street (see Figure 31). A total of 117 officers, or 13% of the City's Patrol Division, were assigned to Central Station as of December 1978. The project vicinity (Reporting Area 356) is patrolled by a radio car 24 hours a day. There are no regular foot patrols in the project vicinity./1/

Reporting Area 356 reported a total of 637 incidents including 72 violent crimes in 1977. Other comparably sized reporting areas in the Central District averaged 644 incidents and 114 violent crimes during the same time period./2/

Burglary, theft, and robbery are the primary criminal problems at the project site. From January of 1977 to August of 1978, these crimes accounted for over 71% of the reported incidents at the project site./1/ During the previous year, the majority of crime incidents at the project site occurred between the time intervals of noon to 5:00 p.m. and midnight to 7:00 a.m./2/

The present Crocker Bank facilities at No. 1 Montgomery St. have a daily security force of 10 guards. The City police are currently called only to make actual arrests at the project site. The use of Lick Pl. for money deliveries is considered a security and traffic problem by the Bank's Internal Security Department because it is not enclosed or otherwise secured from public access./3/



LEGEND

- CROCKER NATIONAL BANK SITE
- CENTRAL POLICE STATION
- POLICE STATISTICAL REPORTING AREA 356
- FIRE STATIONS OF FIRST ALARM RESPONSE

0 1000 Ft.

FIGURE 31: POLICE AND FIRE STATIONS SERVING THE PROJECT SITE

SOURCE: Environmental Science Associates, Inc.

City fire protection services are provided by the San Francisco Fire Department. The companies of first response to the project site are listed in order of response below (see also Figure 31, p. 71).

1. Engine No. 35 at 676 Howard St.
2. Engine No. 1, Truck No. 1, and Rescue Squad No. 1 at 416 Jessie St.
3. Engine No. 13, Truck No. 13, and Division Chief No. 1 at 530 Sansome St.

The Fire Department's current response time to the project site is within 3 minutes./4/

Hydrants connected to the City's domestic, low-pressure water system and auxiliary high-pressure water system are located on all corners of the project site. The Fire Department can deliver 15,000 gallons of water per minute over a 100,000 sq. ft. area./4/

Water for San Francisco is provided from the Hetch Hetchy system via the Crystal Springs and San Andreas reservoirs located on the San Francisco peninsula. The project area is served by the University Mound Reservoir, a storage reservoir with a current capacity of 140 million gallons. Current San Francisco average daily water use is estimated at 79.1 million gallons per day. There are 12-inch water mains serving the project site under both Kearny and Post Sts. Current water usage at the project site averages 517,000 gallons per month, or about 17,000 gallons per day./5/

Combined storm and sanitary sewer service is provided to the project site by the Bureau of Sanitary Engineering of the San Francisco Department of Public Works. The site is currently served by 3 ft. x 5 ft. sewers located along the centerlines of each of the streets bounding the site./6/

The North Point Water Pollution Control Plant presently receives 52 million gallons per day of dry-weather flows from the area in the vicinity of the proposed project. City treatment plants are not designed to handle storm flows resulting from rainfall in excess of approximately 0.02 in. per hour. These excess storm flows bypass City treatment plants and discharge directly into the Bay and Ocean. Projects are currently under design and construction

to reduce these overflows and bring the City into compliance with Regional Water Quality Control Board requirements./7/

Domestic solid wastes in downtown San Francisco are collected by the Golden Gate Disposal Company. Wastes are taken to a transfer station north of Brisbane and then transported to a landfill site at Mountain View Shoreline Regional Park. The current contract provides for use of the site through 1983./8/

The Golden Gate Disposal Company currently collects approximately 1,500 tons of solid waste per day from its collection area, which includes much of the eastern and northern portions of the City, in addition to downtown. The company currently serves the project site daily./8/

NOTES - Community Services and Utilities

/1/ P. Libert, Planning and Research, San Francisco Police Department, personal communication, 14 August 1978.

/2/ San Francisco Police Department, "Incidents for which a Police Report Was Made by District, Plot, and Crime," January-December, 1977.

/3/ J.R. Dixon, Vice President and Director of Security, Crocker National Bank, telephone communication, 8 August 1978.

/4/ W. J. Graham, Fire Marshal, San Francisco Fire Department, written verification, 18 August 1978.

/5/ J.E. Kenck, Manager, City Distribution Division, San Francisco Water Department, letter communication, 25 August 1978. This letter is available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St., Room 319.

/6/ J.M. dela Cruz, Section Engineer, San Francisco Department of Public Works, Bureau of Sanitary Engineering, letter communication, 17 August 1978. This letter is available for public review at the Department of City Planning Office of Environmental Review.

/7/ M. Francies, Engineer Associate II, Department of Public Works, Bureau of Sanitary Engineering, Wastewater Flow Control Division, telephone communication, 23 October 1978.

/8/ F. Garbarino, Office Manager, Golden Gate Disposal Company, telephone communication, 24 May 1978.

J. GEOLOGY, SEISMOLOGY, AND HYDROLOGY

TOPOGRAPHY

The site is located on gently sloping land (about 3% slope) about 3,700 ft. southwest of San Francisco Bay (see Figure 1, p. 7). The site is approximately 27 ft. above the San Francisco Datum (SFD), which is 8.6 ft. above mean sea level. There is about a 16-ft. difference in elevation between the Montgomery St. level at the east side of the site and the higher-lying Kearny St. level at the west side of the site. Higher land is located to the northwest at Nob Hill, to the north at Telegraph Hill, and to the southeast at Rincon Hill.

GEOLOGY AND SOILS

The natural sand dune cover of the site was removed in the 1850's and 1860's. The site was later excavated and partly filled for building construction. A preliminary soil investigation based upon geologic data in the immediate vicinity of the site indicates that approximately 190 ft. of non-rock materials overlie bedrock at the project site (see Appendix C, p. 205 for a geologic profile of the site). The geologic materials are largely of low compressibility and generally suitable for a foundation base. The dense clayey sand is used for building support in some areas. The old bay mud is stiff (non-plastic) and capable of bearing heavy loads with compression of no more than 1 or 2 inches./1/

SEISMOLOGY

No active faults/2/ are known to occur within the City, but several active faults affect it: the San Andreas Fault, about 9.5 miles southwest of the site; the Hayward Fault, about 15.5 miles east of the site; and the Calaveras Fault, about 30 miles east of the site (see Appendix C, p. 205).

The maximum credible earthquake could potentially cause "strong" ground shaking, which would be expected to produce general but not universal, falling of brick chimneys, and cracked masonry and brickwork. Collapse of structures

would probably be uncommon. The maximum credible earthquake could also cause liquefaction/3/ with resultant lateral ground slippage and bearing capacity failure./4/

HYDROLOGY

No water bodies, springs or water courses are located on or near the project site. The site is low-lying and if naturally drained would receive the runoff from the surrounding areas to the north and west. Surface runoff is generally greatest during the wet-weather period between November and April.

Stormwater runoff is discharged into a combined sanitary sewer and storm drain system and is transported to the North Point Water Pollution Control Plant. The system is designed to handle the runoff which might occur during a five-year storm./5/ Runoff from larger storms exceeds the capacity of the combined system, and the excess is carried in the streets. In addition, stormwater runoff currently causes overflows of wastewater into the Bay. Wastewater management system improvements currently under design would reduce the number of overflows from large storms to approximately one to eight per year./6/

The groundwater table at the site is expected to be about 30 feet below street grade and may slope downward from the northwest to southeast across the site./1/

NOTES - Geology, Seismology, and Hydrology

/1/ C. Basore, Associate, Woodward-Clyde Consultants, letter communication, 16 August 1978. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/2/ Active faults are those which have a historic record of activity or show other geophysical evidence of movement within approximately the last 10,000 years.

/3/ Liquefaction is the transformation of granular material, such as loose, wet sand, into a fluid-like state similar to quicksand.

/4/ Blume, John A., 1974, San Francisco Seismic Safety Investigation, Geologic Evaluation.

/5/ A 5-year storm is the largest storm which could occur in a geographic area once in approximately 5 years. It has a 20% probability of occurring once in any given year.

/6/ Metcalf and Eddy, Engineers, February 1978, Southwest Water Pollution Control Plant Project, Interim Planning Criteria Report.

IV. ENVIRONMENTAL IMPACTS

A. CULTURAL AND HISTORIC ASPECTS

The project site has been urbanized for 120 years and each portion of the site has undergone at least 3 transitions from one form of building to another. The current building pattern covers 100% of the site. Excavation for the proposed project would extend to depths of 14-52 ft. below the existing surface and official street grade. Experience on similar Downtown sites inland of the original shoreline indicates that it is probable that no intact cultural or historic materials would be encountered, but scattered artifacts may be found.

B. LAND USE AND ZONING

The proposed project plan conforms with the City Planning Code. The No. 1 Montgomery Building, the 2-story banking hall at No. 25 Montgomery St., and the 22-story 111 Sutter Building would be retained as functional components of the Crocker headquarters complex, preserving architectural and historic qualities representing 70 years of activity on the site. These 3 comparatively low buildings are in the 700-ft. Height District (see Figure 27, p. 39).

The proposed tower would have a diagonal dimension of 200 ft., which is the maximum permitted by the Planning Code above a height of 150 ft. The maximum exterior dimension would be approximately 162 ft., 8 ft. less than the allowable 170 ft. maximum.

The basic maximum Floor Area Ratio of 14:1 for the project site would allow 1,374,000 gross sq. ft. (not including bonuses) of building area on the site under the C-3-O classification. For the purpose of these calculations, the project would include 1,319,000 gross sq. ft., 55,000 less than permitted under the basic maximum. Under the provisions of Section 126 of the City

Planning Code, as amended in 1978 (formerly Section 122.3), the basic floor area allowed can be increased by floor area bonuses which are granted for proximity to rapid transit, i.e., the Market St. subway, shortened walking distances across the site, and multiple entries to the site. The project would qualify for a bonus floor area of 211,000 gross sq. ft. for these features, although the bonuses would not be needed for compliance purposes.

The project would provide pedestrian level retail and restaurant uses, and would extend these uses through the middle of the block via the 3-level galleria, in effect closing the east end of the Post-Sutter retail loop. The galleria would be a pedestrian activity area, recalling the nineteenth century Galleria in Milan, Italy, on the one hand, and modern shopping center malls, on the other. Its potential and ultimate ambience would be dependent upon the quality of the final design and its overall interaction with the proposed new construction and with the older buildings to be retained. The galleria would focus attention upon these buildings on site, as well as upon the buildings viewed at either end: to the south the Aetna Building in Crocker Plaza, built in 1969, and to the north the curtain-walled/1/ Halladie Building, built in 1918.

The galleria, as a north-south pedestrian way, would divert some pedestrian traffic from the narrow sidewalks of Montgomery St., and could constitute the first segment of such a north-south, mid-block pedestrian way between Montgomery and Kearny Sts., which was suggested in general plan proposals for Downtown San Francisco published by the Department of City Planning in 1963./2/ As such it would be a multi-function feature in Downtown San Francisco. The retail uses on the site, in effect, would constitute a bridge between the Financial District to the east of Montgomery St. and the Union Square Shopping District to the west. Department stores, specialty shops, and hotels are plentiful in this area, and height limits taper down from 500 ft. between Kearny St. and Grant Ave. to 360 ft. between Grant Ave. and Stockton St. to 140 ft. around the Square. The 500 ft. tower would mark the western edge of the Financial District while the galleria would extend and blend the retail Shopping District into the center of financial activity.

NOTES - Land Use and Zoning

/1/ A curtain wall is a non-structural, non-supportive exterior wall, usually glass, placed outside supportive columns.

/2/ San Francisco Department of City Planning, 1963, Downtown San Francisco. This proposal has not been officially adopted. There has been no new construction in the area since the proposal was advanced.

C. URBAN DESIGN

Project construction would alter the appearance and function of the site, which presently includes commercial and office buildings of 6 to 22 stories, and the 3-level Lick Garage, with street-level commercial uses (see pp. 31-41, for a discussion of present site use and appearance).

ARCHITECTURAL RESOURCE REMOVAL

Project construction would require demolition of 2 buildings which were included in the Architectural Inventory of 1976 and which were rated "B" in the Heritage Foundation survey described earlier in this report (see pp. 42 and 43): the 8-story Foxcroft Building at 68 Post St., and the 6-story Lyons Building at 130 Kearny St. It would also require demolition of the Insurance Building, rated "C" in the Heritage Foundation survey. The buildings receiving the highest, "A", rating in the Heritage survey would be retained and preserved. These are the 111 Sutter Building, No. 1 Montgomery St. and the adjoining banking hall.

PROJECT VISIBILITY

The project would be visible from long-range view points as well as street-level areas in surrounding blocks. From points along the San Francisco-Oakland Bay Bridge the project would be partially visible or not visible because of existing and proposed high-rise structures in the Financial District. From the Marin vista point at the north end of the Golden Gate Bridge, edges of the high-rise portion of the project would be visible (see Figure 32). From both these viewpoints, the project would be seen as part of

SOURCE: Environmental Science Associates, Inc.

FIGURE 32: VIEW FROM GOLDEN GATE BRIDGE
VISTA POINT

groups of buildings of similar height. Edges of the tower would be visible from portions of Telegraph Hill to the north; most views of the project from this area would be blocked by the Bank of America tower.

The project would be visible in the downtown skyline from higher topography and buildings to the northwest, west, southwest, and south, including Nob Hill (see Figure 33) and portions of Twin Peaks; from the southern approaches to the City along the James Lick and Southern freeways; from Yerba Buena Center (see Figure 34, p. 83); and from street level near the Post St. side of Union Square 2 blocks to the west.

Views of the project from adjacent streets would include all or portions of the tower and the galleria shopping mall. Views from Kearny St. north of the project would include the full 500-ft. height of the tower, except for the portion obscured by the 8-story Sutter Hotel. On Kearny St. between Sutter St. and Maiden Lane, the full tower would also be visible. From other street-level points on Kearny St. and Market St. the tower would be visible above existing, medium-rise structures on Kearny St.

From Post St. west of Grant Ave. to Montgomery St., the full tower, south facade of the galleria, and the facade of One Montgomery St. would be visible.

Views from Sutter St. near Kearny St. would include upper portions of the tower, above the Sutter Hotel and the Sutter St. entrance to the galleria. From Sutter St. near Montgomery the Sutter St. facade of the galleria would be visible; views of the tower would be blocked by the 111 Sutter Building.

The tower would affect views from upper stories of nearby buildings: views to the west or southwest from 111 Sutter St., 44 Montgomery St., and 180 Montgomery St. (under construction); views to the northwest from the Aetna Building on Market St.; and views to the west from the Hobart Bldg. (582 Market St.), the Standard Oil Bldg. (575 Market St.) and 595 Market St. (under construction) (see Figure 2, p. 8, for building locations.

SOURCE: Environmental Science Associates, Inc.

FIGURE 33: VIEW FROM NOB HILL (FAIRMONT HOTEL)

SOURCE: Environmental Science Associates, Inc.

FIGURE 34: VIEW FROM YERBA BUENA REDEVELOPMENT AREA (MISSION ST. BETWEEN THIRD ST. AND FOURTH ST.)

CUMULATIVE VISUAL IMPACTS

The overall effect of proposed high-rise office construction on the San Francisco skyline is shown in Figures 35 and 36, pp. 85 and 86). The structures that would be visible from Yerba Buena Island include the office buildings at Howard and Main Sts., 333 Market St., 444 Market St., the Pacific Gateway Building, Embarcadero Center 4, and the proposed 101 California St. building. The proposed tower would not be visible from the Yerba Buena Island viewpoint.

Structures proposed or under construction downtown that would be visible from the Marin vista point include portions of the proposed project, 444 Market St., and Embarcadero Center 4. The cumulative visual effect of these office buildings, including the project, would be to increase the density of visible high-rise structures clustered in and near the Financial District.

SUNLIGHT AND SHADOW EFFECTS

During most of the year in San Francisco, areas of pedestrian activity are enhanced by the warming presence of sunlight. In recognition of this fact, the San Francisco Comprehensive Plan recommends that pedestrian areas, particularly parks and plazas, be oriented to permit maximum exposure to sunlight.

The proposed tower at Kearny and Post Sts. would cast shadows on nearby streets, buildings, and open spaces, varying with time of day and season of the year. During morning hours throughout the year the tower would cast shadows to the northwest on Kearny and Sutter Sts. During midday hours through the year, the tower would cast shadows to the north and northeast, partially shading the Sutter Hotel, Sutter St., and the proposed galleria and rooftop terrace. During most late spring and early summer midday hours, the rooftop terrace would be generally free of shadows. The Aetna Bldg. to the south of the project would cast mid-day shadows on the proposed terrace above the galleria from late summer to early spring. The proposed tower would also cast shadows on the proposed rooftop terrace and galleria in afternoon hours throughout the year and on the Crocker Plaza at Post and Market Sts. in late afternoon hours in late spring and early summer. During late fall and early

SOURCE: Environmental Science Associates, Inc.

FIGURE 35: CUMULATIVE VISUAL IMPACT-
VIEW FROM YERBA BUENA ISLAND

SOURCE: Environmental Science Associates, Inc.

FIGURE 36: CUMULATIVE VISUAL IMPACT-VIEW FROM GOLDEN GATE BRIDGE VISTA POINT

winter, both the project tower and the Aetna Bldg. would cast shadows on parts of the galleria and terrace during midday and afternoon hours (see Figure 37).

Sun reflections into the eyes of motorists from glass portions of the tower facade could create driving hazards under some conditions. Because of the location of the project in relation to existing buildings and directions of traffic on adjacent one-way streets, such reflections could occur during a small percentage of daylight hours. These reflections would be most apparent to westbound motorists on Sutter St. when the sun would be approximately due west and less than 30 degrees above the horizon and reflected off the north face of the tower. This condition could occur for less than 1 hour in late afternoons during portions of March and April and September and October, but would be reduced by the presence of the Sutter Hotel at Sutter and Kearny Sts.

RELATIONSHIP TO COMPREHENSIVE PLAN

The Urban Design Element of the San Francisco Comprehensive Plan provides a basis in City policy for summarizing the urban design implications of the proposed project. This summary is shown in Table 12, pp. 90-94.

Mid-March and Mid-September: 12 Noon (Solar time)

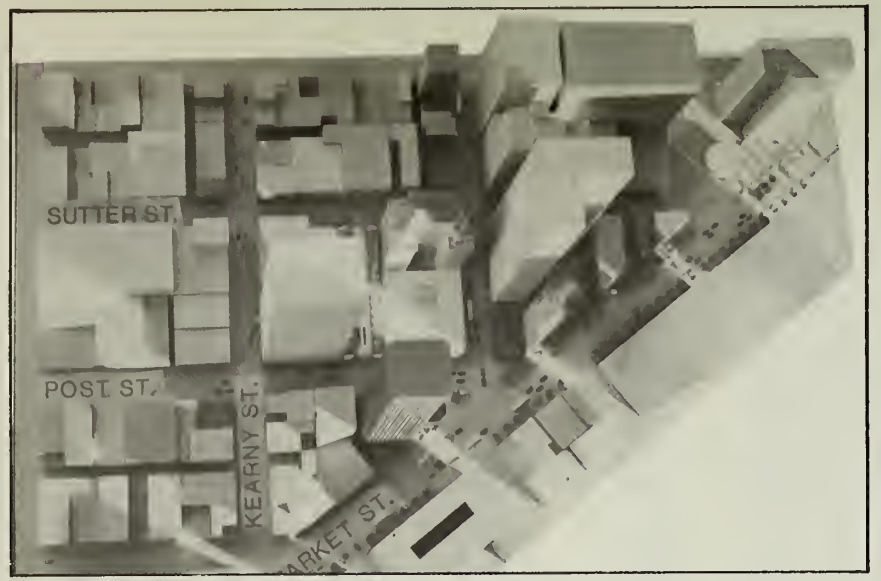
Mid-March and Mid-September: 4 P.M. (Solar time)

Mid-December: 12 Noon (Solar time)

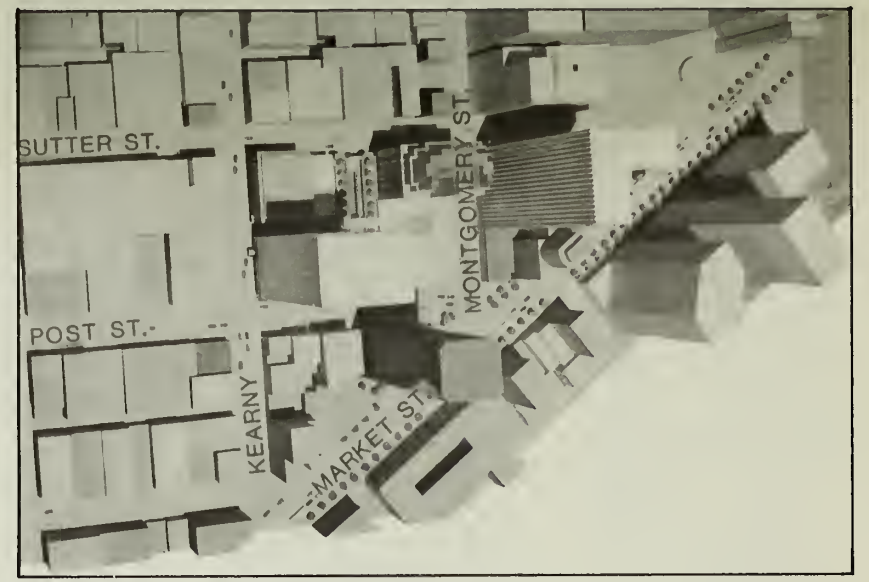
Mid-December: 4 P.M. (Solar time)

SOURCE: Environmental Science Associates, Inc.

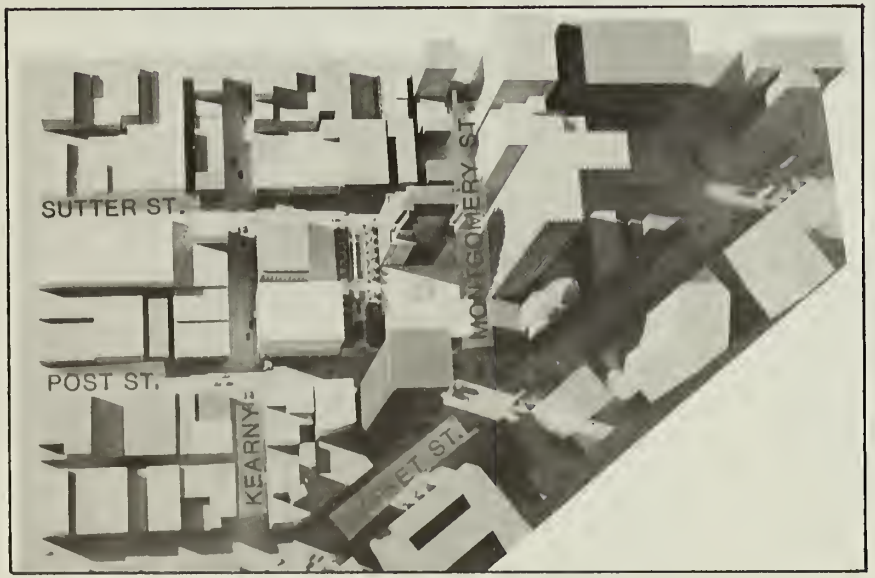
FIGURE 37: SUN AND SHADOW EFFECTS DUE TO THE PROPOSED PROJECT



Mid-December: 8 A.M.(Solar time)



Mid-June: 12 Noon (Solar time)



Mid-June: 4 P.M. (Solar time)

FIGURE 37: SUN AND SHADOW EFFECTS DUE TO THE PROPOSED PROJECT (CONTINUED)

TABLE 12: RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES OF THE SAN FRANCISCO COMPREHENSIVE PLAN AND THE PROPOSED PROJECT

APPLICABLE URBAN DESIGN POLICIES*	RELATIONSHIP OF PROJECT TO APPLICABLE POLICIES
A. Policies for City Pattern	
1. Policy 1. "Recognize and protect major views in the City, with particular attention to those of open space and water." (p. 10)	The project site is outside the City's major designated view corridors along Pine St., 2 blocks to the north, and California St., 3 blocks north. The project would interrupt some views of the Bay from the Aetna Bldg., and toward distant open space to the south and west (including Twin Peaks and San Bruno Mountain) from the 111 Sutter Bldg. and neighboring high-rise structures to the north and east. The project would block few views to the Bay from neighboring buildings located to the west, because most such views are already blocked by intervening structures.
2. Policy 3. "Recognize that buildings, when seen together, produce a total effect that characterizes the City and its districts." (p.10)	The proposed project would be visible in many distant views of the downtown skyline. It would join a number of other comparably sized high-rise buildings in the Downtown area. Collectively, these towers provide the major visual identification for the central business district.
3. Policy 6. "Make centers of activity more prominent through design of street features and by other means." (p. 12)	The galleria would provide a prominent pedestrian activity center vacated to adjacent streets. Pedestrian seating, bicycle racks, and interior plants would be provided in the galleria. Landscaping and outdoor seating would be provided on a rooftop terrace above the galleria. Awnings would be provided at street level along the Kearny and Post St. frontages of the proposed tower. No street trees or street furniture are proposed for public sidewalks. The arched, glass roof of the galleria would be a distinctive design treatment, which would help set off the project as an activity center. Continuation of existing horizontal facade lines (see Figure 16, p. 26) would help clarify the extent of the Crocker complex.

4. Policy 8. "Increase the visibility of major destination areas and other points for orientation." (p. 13)	See Item 2, above. The project would introduce another tower into the skyline of the central business district, and would mark the western edge of the Financial District.
B. Policies for Conservation	
5. Policy 4. "Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development." (p. 25)	The project would preserve 3 buildings that were highly rated in both the San Francisco Architectural Inventory and the Heritage Survey: the 111 Sutter Building, the banking hall at 25 Montgomery St., and No. 1 Montgomery St. The project would demolish the less highly rated Foxcroft Bldg. at 68 Post St. and Lyons Building at 130 Kearny St. The only building on the site that is listed in Here Today, is No. 1 Montgomery St.
6. Policy 5. "Use care in remodeling of older buildings, in order to enhance rather than weaken the original character of such buildings." (p. 25)	Restoration and remodeling of the interior of the banking hall and No. 1 Montgomery St. would be intended to enhance the character of these buildings.
7. Policy 6. "Respect the character of older development nearby in the design of new buildings." (p. 25)	The proposed project would represent a departure in style and scale from much development in the vicinity of the site, particularly the smaller-scaled buildings to the north and west (see Figure 25, p. 37). The galleria and tower exterior would consist of stone or precast concrete similar in texture and color to the base of No. 1 Montgomery St. The arched galleria entrances would recall the arches in the facades of the adjacent older buildings at No. 1 Montgomery St. and 111 Sutter St.; and the 3-level galleria structure would be the same height as the base structure of No. 1 Montgomery St. Existing facade lines of the adjacent older buildings would be continued in the facades of the galleria and tower. The rooftop terrace and open-ended galleria would provide views of the Halladie Bldg. on Sutter St. and the Mechanics Institute and Aetna Building on Post St.

8. Policy 8. "Maintain a strong presumption against the giving up of street areas for private ownership or use, or for construction of public buildings." (p. 28)	Lick Pl., a private street which extends through the site from Post to Sutter Sts., would be closed to permit construction of the galleria. Above-grade circulation through the site would be limited to pedestrians. Ver Mehr Pl. would remain open and would provide pedestrian access to the Kearny St. level of the galleria; the eastern end would be vacated as a public right-of-way.
C. Policies for Major New Development	
9. Policy 1. "Promote harmony in the visual relationships and transitions between new and older buildings." (p. 36)	See Item 7, above. According to the Urban Design Plan, the surfaces of large buildings should be articulated and textured to reduce their apparent size and to reflect the pattern of older buildings. The probable masonry exterior finish materials of the tower would be similar in character to those of most neighboring buildings. Details of surface articulation and texture have not yet been developed. The horizontal building lines at the lower levels of the No. 1 Montgomery Bldg., the 111 Sutter Bldg., and the Sutter Hotel would be continued in the facades of the galleria and tower. Differentiation in the surface treatment of the mechanical level at the top of the tower would help visually terminate the structure.
10. Policy 2. "Avoid extreme contrasts in color, shape, and other characteristics which will cause new buildings to stand out in excess of their public importance." (p. 36)	See Item 9, above. The tower would be basically rectilinear in shape. The light gray reflective glass and light-colored masonry exterior materials would impart medium to light color values to the tower. These values would shift, depending on time of day, natural lighting conditions, and reflected sky colors.

11. Policy 4. "Promote building forms that will respect and improve the integrity of open spaces and other public areas." (p. 36)	See Items 1 and 6, above. The proposed tower would be located to the west of the proposed galleria and rooftop terrace. The tower, and the Aetna Bldg. across Post St. to the south, would block most sunlight penetration to these areas during midday and late afternoon hours most of the year, and would partially block sunlight to Crocker Plaza (at Montgomery and Market Sts.) in late afternoon hours during late spring and early summer. No parks or other plazas would be affected by shadows cast by the project. The project would provide an open landscaped garden terrace on the roof of the galleria, but no open space other than the galleria at street level.
12. Policy 5. "Relate the height of buildings to important attributes of the City pattern and to the height and character of existing development." (p. 36)	See Item 4, above. The height of the proposed tower would conform to the present height limit on the tower site. The tower would be comparable in scale to other highrise buildings which comprise the downtown skyline (particularly that of the Financial District), including the neighboring Aetna Bldg. and 44 Montgomery Bldg. It would be generally taller than neighboring lowrise and midrise development to the immediate north and west, including the lowrise and midrise development around Union Square 2 blocks to the west. The 3-level galleria would be the same height as the base structure of No. 1 Montgomery St.
13. Policy 6. "Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction." (p. 37)	See Item 12, above. The maximum diagonal dimension of the proposed office tower would be 200 ft., the maximum permitted by City building bulk restrictions. The maximum exterior dimension of the tower would be approximately 162 ft., 8 feet less than the permitted maximum of 170 ft.
D. Policies for Neighborhood Environment**	
14. Policy 3. "Provide adequate lighting in Public Areas." (p. 55)	No lighting plan has yet been prepared.
15. Policy 4. "Design walkways and parking facilities to minimize danger to pedestrians." (p. 55)	Pedestrian circulation within the project site would be separate from vehicular circulation. The project would have 9 entrances, 4 at grade to permit handicapped access.

	Midblock pedestrian corridors through the site would connect Kearny, Montgomery, Post, and Sutter Sts. Vertical circulation through the public portions of the project would be provided by escalators and shuttle elevators. Truck and auto access to underground service and parking levels would be via a single curb cut on Sutter St.
16. Policy 12. "Install, promote and maintain landscaping in public and private areas." (p. 57)	Landscaping would be provided in planters, tubs and soil placed over portions of the rooftop terrace, and in tubs in the galleria and building lobby. No street trees would be provided. No landscaping plan has been prepared.
17. Policy 13. " Improve pedestrian areas by providing human scale and interest." (p. 57)	See Item 3, above. The project would provide approximately 1,700 lineal ft. of retail (restaurants and shops) frontage.
18. Policy 14. "Remove and obscure distracting and cluttering elements." (p. 57)	Distracting and cluttering elements such as parking areas and utility lines would be underground, out of public view. Design of signs, directories, and other graphics would be controlled with the intent of avoiding garish or otherwise distracting appearances.

*City and County of San Francisco, 1971, Comprehensive Plan, Urban Design Element. Page references are shown in parentheses.

**Policies for Neighborhood Development are intended to apply primarily to residential areas. However, some neighborhood policies may be applicable to other areas of the City, including the project site. The relationship of these policies to the project is therefore discussed above.

D. ECONOMIC, EMPLOYMENT, AND FISCAL FACTORS

ON-SITE COMMERCIAL FLOOR AREA

The project would demolish about 52,500 net leasable sq. ft. of office space on the project site, and would add about 568,500 net sq. ft. to the project site. The net increase in office space on the site would therefore be 516,000 sq. ft., an increase of 128% over the current 403,000 sq. ft. on the site (see Table 13).

The project would remove about 32,200 sq. ft. of leasable retail/ restaurant space (26,000 sq. ft. on the ground floor) and would replace it with 86,000 sq. ft., for a net increase of about 53,800 sq. ft., or 167% (see Table 13).

TABLE 13: PROPOSED CHANGES IN LEASABLE FLOOR AREAS AT THE PROJECT SITE

		Proposed				Net Change	
	Existing	To be Demolished	To be Built	To be Retained	Total Upon Project Completion	Total	% Change Onsite
Office/ Banking	403,000	(52,500)	568,500	350,500	919,000	516,000	128
Retail/ Restaurant	32,200	(32,200)	86,000	--	86,000	53,800	167
Public Parking	140,000	(140,000)	45,300	--	45,300	(94,700)	(68)
Total	575,200	(224,700)	699,800	350,500	1,050,300	475,100	83

SOURCE: Crocker Properties, Inc. and Skidmore, Owings & Merrill

The net gain in on-site gross office space (new construction less demolition) would be about 650,000 gross sq. ft. This would represent a 1.2% increase in the existing total Downtown office space of 55 million gross sq. ft.

FLOOR AREA OCCUPIED BY CROCKER NATIONAL BANK

Crocker National Bank headquarters now occupies 501,500 net sq. ft. of office space (see Table 3, p. 48) and will soon occupy an additional 60,000 sq. ft. When Crocker moves into the proposed tower in 1981, it would vacate all or most of this space except the 135,000 sq. ft. in No. 1 Montgomery St., leaving as much as 426,500 sq. ft. available for lease on the open market. At that time, Crocker may also make available a relatively small, but presently undetermined, portion of the proposed tower for lease to non-bank tenants. Crocker would eventually occupy the entire tower.

EMPLOYMENT AND TENANT MIX/1/

Project Site Employment

Crocker National Bank Northern California headquarters is expected to employ approximately 2,500 employees in 1981, an increase of 530 (21%) over the present 1,970. Maximum eventual Crocker Northern California headquarters employment is expected to be between 3,100 and 3,600 (36%-45% increase over present employment).

Total office population on the project site would eventually increase from the present 1,486 to 4,000-4,500. Retail, restaurant, and support employment would increase from an estimated 78 to about 143 upon project completion.

Total employment at the project site would therefore increase from the present 1,620 to approximately 3,700 after project completion in 1981. When Crocker reaches its ultimate employment level, on-site employment would be 4,200 to 4,800. In summary, the net increase of on-site employment would consist of:

800	Non-Crocker office employees in 111 Sutter Building;
3,100 to 3,600	Crocker, Northern California Headquarters, office employees in proposed tower and existing office tower at No. 1 Montgomery St.
80 to 140	Non-Crocker, retail and support personnel, primarily in galleria;
4,240 to 4,800	Total maximum future on-site employment,
- 1,620	less existing on-site employment, equals
2,620 to 3,180	Maximum net increase on-site employment due to proposed project.

In addition to the net increase on the block of roughly 2,600 to 3,200 employees, there would be approximately 1,100 additional workers at off-site downtown locations vacated by Crocker, assuming reoccupancy of these spaces.

The extent to which either the new on-site Crocker employees or the new employees in space vacated by Crocker would be immigrants to the Bay Area or inmigrants to San Francisco (as distinct from local residents entering the labor force and being employed) is not known. Based on a survey of present Crocker employees, however, 41% would be expected to be or become San Francisco residents, 29% would be East Bay residents, 18% Peninsula residents, and 12% Marin and Sonoma County residents (see Table A-3, p. 191).

Construction Employment

It is estimated that the project would require 650 person-years of construction labor with a total construction payroll of $16.7 million./2/ This represents an average of about 260 full-time jobs throughout the 2-1/2 year construction period. About 70% of those jobs would be expected to be held by San Francisco residents./3/ About 100 person-years of design, engineering, planning, environmental and legal services employment would also be required./1/

Secondary temporary employment multiplier effects would result from the direct construction employment because each employed person generates additional regional employment opportunities by his or her demand for goods and services. This is estimated to be the equivalent of 570 full-time, one-year jobs in the region.

Relocation

Seventy-three businesses employing about 240 persons would be displaced from the project site. Of those businesses with 10 or more employees, Eddie Bauer, retailer of sports clothing and equipment, has moved to 220 Post St, formerly occupied by Abercrombie and Fitch. Bunker Ramo, a computer marketing firm, plans to move its computer operations to a Market St. location in downtown San Francisco. Qwik Printing Company, a photocopy/printing business, so far has been unable to find a suitable relocation site and indicates that it may have

to discontinue business. Of the remaining businesses, most are expected to relocate in San Francisco, although some may relocate outside the City or go out of business. The present shoeshine business, which has been operating on the block for over 50 years, would be relocated to a stand to be provided in the project and to a temporary location during construction. As many of the retail tenants and the Lick Garage depend on the downtown office and shopping population, the ability of these establishments to relocate successfully would depend on whether they were to find suitable, replacement sites in the downtown area. Small commercial offices would probably relocate with less difficulty than would retail tenants./5/

The retention of small business firms in San Francisco is a major goal of the Mayor's Office of Economic Development. This Office, through its Neighborhood Business Revitalization Program, provides relocation advice and loan assistance to firms that would have difficulty in finding suitable, comparable replacement sites in San Francisco./6/ In addition, Crocker National Bank would provide a relocation consulting service through an as yet undetermined local real estate firm or firms./7/

FISCAL FACTORS

Assessed Valuation and Property Taxes

Based on replacement costs, the minimum fair market value/8/ of the proposed project would be approximately $94 million in 1978 dollars./9/ The assessed valuation of the improvements would be $23.5 million, 25% of the fair market value. Subtracting the assessed value of the existing land and improvements ($7.0 million) from the projected value of all land and proposed improvements on the project site ($29.7 million) would yield an estimated addition to San Francisco's property tax base of $22.7 million in 1981. The net increase over 1978-79 property tax revenues of $355,000 would be between $833,000 and $1,130,000. These estimates assume the existing tax structure, which provides that tax revenues be limited to 1% of market value plus taxes for debt service on previously approved bonds, and appraisal of market value based on full replacement cost. The low estimate is based on a tax rate of $4 per $100 assessed value, and the high estimate is based on a tax rate of $5 (the maximum plus an estimated $1 for payments on bonds)./10/

Until the State legislature enacts new legislation, it is not known how the property taxes would be distributed in the fiscal year 1981-82 or thereafter. However, if the City and County were to receive the same share as in 1978-79, it would receive $533,000 to $723,000 in net additional property tax revenues (64% of the net composite property tax revenue range). If the State were to assume a greater share of local education costs, the City and County share would increase, and the San Francisco Unified School District share would decrease.

Other Revenues and Costs

Assuming annual taxable gross retail receipts of $8.8 million, approximately $572,000 in total sales tax revenues would be generated by restaurants, shops, and other retail activities; an increase of 174% over the present estimated $209,000 in sales tax revenues./11/ Of these revenues, the State would receive $444,400; the City and County, $83,600; and BART, $44,000.

Indirectly, increases in sales tax revenues resulting from purchases by Crocker Bank office workers downtown are not expected to be appreciable sources of City and County revenue./12/ The business tax generated from the retail portion of the project would be about $8,800. Because banks and insurance companies are exempt from local business taxes, increased Crocker employment on the site would generate no increased payroll expense taxes. The space in the 111 Sutter Building to be vacated by Crocker would generate approximately $118,800 in additional payroll expense taxes, assuming it is occupied by other than bank or insurance tenants. The total business and payroll taxes generated at the project site would therefore be approximately $127,600, an increase of $38,600 (or 43%) above the estimated present total of $89,000.

Additional payroll expense taxes would accrue from the other space vacated by Crocker. Assuming reoccupancy by other than bank or insurance companies at the same employee density and average salary as the existing Crocker employment, 1,110 employees would generate $128,200 payroll expense tax. The extent to which this employment would represent new San Francisco jobs rather than relocated jobs is not known. Therefore, these revenues are not included in the net revenue summary below.

Water and sewer operating cost increases due to the project would be covered by user charges. Office development in downtown San Francisco does not increase the capital costs required for an upgraded sewer system designed to meet federal legal requirements, due to a special situation in the design of the system. The municipal and industrial wastewaters together with stormwater runoff are transported in a combined wastewater collection system, most of which was constructed in the early 1900's. This type of system, which is common in older communities throughout the U.S., creates special problems in the conveyance and treatment of wastewaters. For instance, the City's average dry weather wastewater flow of 100 million gallons per day (mgd) increases to as much as 14 billion gallons per day during storm periods. The major sizing factor for the system is wet weather flows, which are many times larger than the dry weather flows.

Some increases in public safety, general government, and traffic control costs could be expected with the increased intensity of uses on the block. Street-related costs, such as maintenance, storm drainage, lighting, and cleaning, would not be measureably affected. No education costs would be directly incurred. If new employees with children were to locate in the City, they would help slow trends of declining enrollment and State support.

City and County costs attributable to the project may be viewed as its proportion of increased costs attributable to downtown cumulative commercial growth. Increased property tax revenues ($306,000 to $496,000), sales tax revenues ($53,600), business and payroll tax revenues ($38,600) generated from the site may be expected to cover the incremental (marginal) costs to the City and County of public services for the project site.

The education districts would receive property taxes, assuming new State legislation would still apportion property taxes to school districts, but the increased local tax base would result in a decrease in school equalization aid revenues from the State under Proposition 13 and its implementing legislation, Senate Bill 154. Downtown office development would have no direct net effect on school expenditures, but would increase the proportion of total school expenditures financed by the property tax./13/ Cost increases would be incurred for agencies which provide public transit, such as the San Francisco Municipal Railway, and BART. According to estimates of project-generated Muni

ridership (see Table 22, p. 119), Muni lines serving the site in 1981 would be operating at 85% of total seated and standing capacity (averaged over the 1-hour peak). Muni would not be expected to add buses beyond planned increases in services to provide peak-hour service to riders from the project.

The direct fiscal impact on BART would depend on BART's passenger capacity at the time of project completion. If BART trains cannot hold more (peak-period) passengers, there would be no new riders to increase fare revenues and there would be no decrease in the existing average $1.25 per trip deficit. Under this condition, the estimated 980 trips per day that would be generated from the project (see Table 17, p. 112) would result in an annual deficit of $310,000. The continuing direct sales tax revenues from retail sales at the site and the indirect sales tax revenues from the purchases of workers at the Crocker National Headquarters would partially offset this annual deficit. If BART adds capacity by extending the lengths of trains or by reducing headway time and running more trains, added costs would be negligible in relation to increased fare revenue,/14/ and the average deficit per commuter would decrease.

The increased tax base attributable to the project, on which fixed-cost BART bond taxes are levied, would enable future bond taxes on existing property elsewhere in San Francisco to be reduced.

CUMULATIVE ECONOMIC AND FISCAL EFFECTS

Downtown Office Space and Employment

Past trends indicate that new downtown office space is likely to be built and absorbed at a much higher rate than citywide office employment growth. This is due to increased space per employee and relocations to downtown from elsewhere in San Francisco./15/

The proposed project, together with the other high-rise buildings which have been applied for or are in design, represent an estimated 4-5 year supply of office space, assuming absorption at the historic 1970-77 rate; or a 7-8 year

supply at the lower 1960-1969 absorption rate. Possible development proposals for Yerba Buena Center and other unforeseen proposals could increase this 4-8 year supply by one to several years. If all these buildings were to come on line in the early 1980's, there could be a cumulative oversupply, at least in the short term.

Such an oversupply could have the effect of preempting or slowing new office development elsewhere in the City, in the Yerba Buena Redevelopment Area, for example./16/ On the other hand, displacement of small service-oriented firms downtown could encourage conversion and rehabilitation of vacated older warehouse and light industrial space in San Francisco and vacated older office space outside of downtown./17/ From a regional perspective, an oversupply of new office space in San Francisco would not be likely to preempt or slow office development elsewhere in the Bay Area. The region appears to have fairly well-defined sub-regional office space markets, each growing primarily in response to local demand factors. Rents in San Francisco are not likely to decline to a point where they would attract office tenants who would otherwise be attracted to Oakland or suburban locations. Cumulatively, the large amount of office space coming on line at one time could increase the citywide office vacancy rate and have the indirect effect of holding office rent increases down.

Secondary dislocation effects on older downtown offices could also occur. As various firms upgrade to relatively high-rent spaces vacated in high-rises built in the 1960's and early 1970's (such as firms relocating to space which Crocker would vacate), secondary vacancies could occur in older, pre-war buildings.

Retail Space

The galleria space would probably be absorbed without causing vacancies or measurably lowering sales volumes elsewhere in downtown San Francisco. Because of its location at the perimeter of the Union Square retail district, the incremental space would support not only the proposed restaurant space and service-oriented shops but also high quality specialty and apparel stores, according to commercial brokers./18/

After project completion, there would be 10.7 net sq. ft. of office space for every net sq. ft. of retail space on the project site, in comparison with the existing ratio of 12.5. That is, although the project would increase retail space on the project site by 167%, the ratio of retail to office space would decline by about 14%.

Fiscal Factors

Although there is no standard methodology for assessing costs of incremental office development, it would appear from this and previous San Francisco EIRs that high-rise office development provides an overall net cumulative direct fiscal benefit to the City, despite a possible net deficit to Muni. This exception arises from the capital cost of providing transportation facilities for both public and private transportation. Transit systems are partially supported by fares and state and federal subventions derived primarily from state and federal gas taxes. The remaining costs are financed locally by sales taxes, which are the primary deficit support for BART operating costs, and by property taxes, which are the primary support for MUNI and the source of funding for debt service on BART capital costs. It has been suggested that "vehicle congestion is a threshold factor. . . should the 1990 maximum growth level become a reality."/19/ This "threshold factor" would determine the requirement for new capital improvements to transportation systems, such as extension of BART to the Peninsula. Until a public determination that this threshold has been reached, the "costs" of congestion due to private vehicles would be borne privately in the form of higher vehicle operating costs, increased travel times, and increased vehicle air pollutants./20/

No single office, hotel or retail project can be identified as being, or having already been, a "threshold" project. Theoretically, the proposed Crocker project would contribute incrementally to cumulative transportation fiscal impacts, roughly in proportion to the contribution it would make to cumulative demands upon various traffic and circulation systems and to any new cumulative public and private costs of travel.

NOTES - Economic, Employment, and Fiscal Factors

/1/ R.H. Short, Jr., Senior Vice President, Crocker National Bank, written communication, 31 August 1978.

/2/ Estimate based on labor cost of 16% to 18% of basic construction costs and 50% of interior space development costs at annual average cost (wages plus benefits) of $25,000 to $27,000. C. Smith, President, Dinwiddie Construction Company, personal communication, 16 August 1977 and R.P. Gilbert, Estimator, Turner Construction Company, letter communication, 9 October 1978.

/3/ C. Smith, President, Dinwiddie Construction Company, personal communication, 9 June 1978.

/4/ Based on a construction employment multiplier of 1.9. An explanation and methodology for assessing secondary construction employment impact for San Francisco is found in Bank of Tokyo EIR, op. cit. pp. 41 and 42.

An employment multiplier is a quantitative expression of the extent to which a change in local production induces an overall change in employment. This means that for each San Francisco resident employed as a result of a project additional employment opportunities in the City would be generated by his or her demand for goods and services. As residents tend to spend their incomes in San Francisco, their purchases become income to those who sell goods and services. These sellers, in turn, spend a portion of their income on their own purchases, and so on. The resulting increase in the level of economic activity provides additional jobs.

/5/ J. Pifarre, Project Manager, Mayor's Office of Economic Development, telephone communication, 28 September 1978 and G. Olliver, Project Manager, telephone communication, Mayor's Office of Ecomonic Development, 20 October 1978.

/6/ G. Olliver, Project Manager, Mayor's Office of Economic Development, telephone conversation, 27 October 1978.

/7/ R.H. Short, Jr., Senior Vice President, Crocker National Bank, personal communication, 17 November 1978.

/8/ Fair market value is assumed to be replacement cost, which includes land acquisition, construction costs (including interior improvements), and estimated costs for design, engineering, planning, and interim financing.

A table containing the calculations on which this and other estimates are based is available at the Department of City Planning, Office of Environmental Review. It is titled "Estimates of Project Value and Property Tax". When commercial property is first appraised by the Assessor's Office, principal weight is given to the construction cost as the indicator of fair market value. Usually, after a year or so of operation, property is appraised on the basis of its ability to generate rental income, or if owner-occupied, equivalent rental income. Owners and developers of commercial property often make successful appeals on the basis of the income approach, and receive reduced assessments. Because of Proposition 13, appraisals reduced from replacement cost may be less likely in the future. (J. R. Stanisch, Senior Real Property Appraiser, Assessor's Office, City and County of San Francisco, 9 September 1978).

/9/ Appreciation of land value and escalation of construction costs is expected before fiscal year 1982-1983; however, estimates are given in constant dollars. The assumption is that prices and wages in the rest of the

economy will inflate at the same rate. If the property rises in value faster than the costs of City expenditures which are funded by the property tax, the real benefit to City taxpayers would be greater than indicated.

/10/ As various municipal bond series are gradually retired, the tax rate will decline to the $4 limit. The table referred to in footnote 8 gives the calculations for property tax revenues in addition to assessed valuation estimates.

/11/ San Francisco Planning and Urban Renewal Association (SPUR), June 1975, Detailed Finding: Impact of Intensive, High-Rise Development in San Francisco, Final Report, pp. 252-4. Hereinafter referred to as SPUR. Gross receipts based on $103 annual sales volume per net sq. ft. of retail space.

/12/ SPUR, op. cit., pp. 262-64.

/13/ L. Eickert, Business Manager, San Francisco Schools, telephone communication, 27 November 1978.

/14/ W. Belding, Senior Economic Analyst, Statistical Department, BART, telephone communication, 9 September 1978.

/15/ Based on past trends, SPUR projections from 1974 to 1990 varied by a factor of three for new office space (from 10 to 30 million sq. ft. absorption), but by a factor of only two (from 49,000 to 87,000 more office workers) for increased employment.

/16/ The following is quoted from the 1977 Yerba Buena EIR, Appendix D, pages 34-5. (The words underlined are revised to reflect recent data.)

> "According to estimates by the Department of City Planning the financial and administrative district (C-3-O zoning district), which allows the highest floor area ratios in the City, has a theoretical capacity to accommodate 30+ million sq. ft. of new office space, in addition to the 6+ million sq. ft. available in Yerba Buena Center. Even if site clearance or parking requirements reduce this theoretical capacity in half--to 15 million sq. ft.--it represents an 8-12 year supply of available high-density office space within the downtown district and YBC at recent absorption rates (1.3 to 1.8 million per year).
>
> "As pointed out in the Arthur D. Little report to the San Francisco Department of City Planning in 1975:
>
> "These facts suggest the possible desirability of restraining growth north of Market St. in order to accommodate new growth on land already prepared for development in the YBC project area. This strategy would reduce the necessity for demolition and reconstruction in the downtown, and maximize the fiscal benefits derived from construction of new buildings on vacant land."

/17/ W. Evers, Executive Director, Mayor's Office of Economic Development, telephone communication, 8 November 1978.

/18/ R. Redwine, Edward H. Plant, Jr., Inc., 18 December 1978, and R. Whitman, Coldwell Banker, telephone communication, 15 December 1978.

/19/ SPUR, op. cit., p. 8.

/20/ SPUR, op. cit., pp. 277-316.

E. TRANSPORTATION, CIRCULATION, AND PARKING

DEMOLITION, EXCAVATION, AND CONSTRUCTION

During the construction period, transportation impacts would result from trucking movements to and from the site during demolition, excavation, and construction activity. Demolition activity would generate an average of about 6 truck movements per hour in or out of the project site between 9:00 a.m. and 4:00 p.m. over a 3-month period./1/ Excavation would generate an average of about 3 truck movements per hour over a 5-month period./1/ Post-excavation construction activity would require 2,000 truck movements to deliver construction materials over a 24-month period./1/ The average daily number of such truck movements would be about 3. During a 6-week overlap between excavation and post-excavation construction, there would still be about 3 truck movements per hour. Installation of water service would disrupt 1 lane of traffic for up to 3 days on either Kearny or Post St.; installation of electrical service could disrupt Post St. traffic for up to 1 week; and installation of telephone service would intermittently disrupt traffic along 1/2 block of Bush St., 1 block of Kearny St., and a portion of Sutter St. for up to 3 months. These utility-service-related construction activities would occur during off-peak hours.

The transportation impact of the construction truck traffic would be a slight lessening of the capacities of the access streets and haul routes due to the slower movements and larger turning radii of the trucks. Any truck traffic from 7 a.m. to 9 a.m. or 4 p.m. to 6 p.m. would conflict with peak-hour traffic, particularly at freeway access points. Turnaround space for truck movements would be provided on the project site for most of the construction period. Demolition, excavation and construction would be staged (the tower first, the galleria second) to permit maximum site use for marshalling truck movements.

TRAVEL DEMAND ANALYSIS

Most of the occupants of the proposed office space in the Crocker National Bank Headquarters would be Crocker employees currently working at 7 other locations in San Francisco: 111 Sutter St., 74 New Montgomery St., 79 New Montgomery St., 425 Market St., 150 Post St., 44 Montgomery St., and California St. at Van Ness Ave. All of these locations, except the office at California St. and Van Ness Ave., are within 2 blocks of the project site.

The current staff of 1,970 employees is anticipated to be gradually expanded to 2,500 employees by the time the new building is occupied in 1981. An additional, but presently undetermined, number of non-Crocker office employees may also occupy space in the proposed tower at that time, if suitable tenancies can be arranged. For the purposes of this section, it is assumed that the maximum ultimate project site occupancy of approximately 4,800 employees would be reached immediately upon project completion and that the office space vacated by Crocker would be immediately reoccupied at the current employee density./2/

A questionnaire was distributed to the Crocker employees in August 1978 to determine where they live, how they get to and from work, where the automobile users park, time of work arrival and departure and the method of transportation they might use to get to work at the new headquarters building (see Appendix A, p. 192).

The transportation impact of the project has been calculated based upon trip generation factors of 3.9 person trip ends (pte) per employee per weekday and 0.7 pte per employee in the p.m. peak hour. As approximately 600 employees presently occupy the site, the trip generation factors were applied to a total maximum projected net new on-site employment population of 3,200, generating a total of 12,480 pte per weekday. This travel was assigned to transportation modes according to the questionnaire results (see Appendix A, p. 191).

The project is proposed to include about 85,000 leasable sq. ft. of retail commercial and restaurant space, in addition to the proposed office space. This additional space would generate approximately 1,280 additional pte per day (about 600 vehicle trip ends per day), after allowance for trip ends due

to Crocker and other tenant office employees who walk to these uses during the course of the workday./3/ Thus, the project would generate about 13,760 pte per weekday, distributed as shown in Table 14.

TABLE 14: ESTIMATED 24-HOUR WEEKDAY TRAVEL* DEMAND GENERATED BY THE PROJECT

Area of Residence	%	Total	Auto	Transit	Walk
North Bay	10	1,400	400	1,000	
Peninsula	18	2,400	950	1,450	
East Bay	27	3,760	740	3,020	
San Francisco	45	6,200	1,380	4,390	430**
	100	13,760	3,470	9,860	430**

*Office and retail person trip ends
**Approximately 210 pte would be due to persons who walk to the site without using any other form of transportation. An estimated additional 13,350 pedestrian trip ends would be made to and from the site each day by people originally using other modes of transportation.

TRAFFIC IMPACTS

Traffic impacts were analyzed at 2 levels. For estimation of project-generated traffic-volume increases at freeway access points, conventional techniques for estimating traffic generation were used. That is, daily traffic generation was based on square footage of various on-site uses and on numbers of on-site employees, as it was assumed that as long as parking were available within convenient walking distance, most drivers would continue to drive to work. For estimation of project-generated traffic-volume increases on streets immediately surrounding the project, the capacity of the on-site garage was the basis, as it was assumed that routes of drivers going to other garages would be dispersed enough so that they would have a negligible effect on traffic volumes on the adjacent streets.

The project is proposed to have between 60 and 100 off-street parking spaces. These spaces are projected to generate approximately 200-300 vehicle trip ends to or from the site each day. Conversely, the proposed removal of the on-site

Lick Garage would of itself reduce travel to or from the site by about 1,200 vehicle trip ends per day.

The 24-hour automobile travel generated by the project (considered to be due primarily to the addition of about 3,200 employees to the project site, most of them shifting from other nearby facilities) was analyzed. For each of the 7 geographic areas of trip origin considered, an average trip length was estimated and the vehicle-miles traveled were calculated. The total vehicle-miles of new travel are estimated to be 38,700 vehicle-miles per day, with an average trip length of 15.2 miles one way./4/

In assessment of the new traffic which would be generated by the project in relation to other traffic expected to be on the streets in 1981, the expected year of project completion, an expansion factor of 1.8% per year was used to increase the known 1978 traffic volumes to expected 1981 base levels, exclusive of project-induced changes. This annual expansion rate is used by the City and County of San Francisco for planning purposes, and was used by the San Francisco Department of Public Works in its Downtown Parking and Traffic Survey (DPATS) in 1970.

The 1981 projected base volumes on streets near the proposed project, the increases in traffic volumes estimated to be caused by the proposed project, and the percent of the peak-hour increase over the 1978 base level which would be caused by the project are shown below (see Table 15). The maximum increase in peak-hour traffic would be 5%. As the transportation analysis is accurate to 10%, this would not be a statistically significant change.

The effect of the project garage-generated traffic on the level of operation of adjacent intersections during the peak-hour in terms of volume-to-capacity ratios is also shown below (see Table 16). The removal of the Lick Garage would decrease traffic around the project site by a greater amount than the project garage would generate. Thus, no change in vehicular Level of Service is projected for any of the 4 intersections.

TABLE 15: PROJECTED VEHICLE VOLUMES ON STREETS NEAR THE PROJECT SITE IN 1981

Street	1981 BASE 24 Hour	1981 BASE Peak Hour*	1981 BASE Peak 8 Hour	1981 BASE + PROJECT 24 Hour	1981 BASE + PROJECT Peak Hour*	1981 BASE + PROJECT Peak 8 Hour	% of Increase Per Peak Hour Due to Project**
Montgomery	6,900	620	3,900	6,900	620	3,900	***
Post	3,800	340	2,200	3,800	340	2,200	***
Kearny	22,000	1,980	12,500	22,000	1,980	12,500	***
Sutter	9,700	870	5,500	9,700	870	5,600	***
Fourth	23,000	2,280	13,100	23,800	2,400	13,500	5
Beale	8,400	1,030	5,000	8,700	1,070	5,100	4
Main	14,100	1,600	8,400	14,400	1,640	8,500	3
Clay	30,800	2,410	17,300	30,900	2,420	17,300	-
Washington	16,400	2,080	9,800	16,500	2,090	9,800	-

*The single peak hour between 4:00 and 6:00 p.m. except for Washington and Main Sts. where the peak hour is between 7:00 and 9:00 a.m.
**Percent increase over the 1981 base traffic volume
***No change shown although the reduction in traffic from removal of the Lick Garage would be greater than the increase in traffic from the proposed garage.

SOURCE: TJKM, Transportation Consultants

TABLE 16: PROJECTED PEAK-HOUR INTERSECTION VOLUME-TO-CAPACITY RATIOS* NEAR THE PROJECT SITE IN 1981

Intersection	1981 Base V/C	1981 Base Level of Service**	1981 Base + Project V/C	1981 Base + Project Level of Service**
Montgomery and Post	0.88	D	0.88	D
Post and Kearny	0.65	B	0.65	B
Kearny and Sutter	0.67	B	0.67	B
Sutter and Montgomery	0.55	A	0.55	A

*See Table 8, p. 59, for intersection capacities.
**See Appendix A, p. 188. for definition of Levels of Service.

SOURCE: TJKM, Transportation Consultants

PARKING IMPACTS

The daily parking demand which would be generated by the project is estimated to be about 540 parking spaces./5/ This estimate is based on current driving and parking practices of Crocker employees, many of whom park at some distance from their office. It reflects the proposed addition of about 3,200 employees to the project site, most of them moving from other nearby offices, and the projected shopper demand from the retail spaces. The project would provide 60-100 parking stalls, thus failing to meet the demand by 440-480 spaces. Upon demolition of the Lick Garage, the parkers now using that facility would be displaced, thus creating a local parking deficit. They would be expected to be accommodated to in other available spaces in the area (see Figure 29, p. 60 for parking availability), thus decreasing the number of available vacant spaces.

TRANSIT IMPACTS

For the analysis of the transit impacts from the project, afternoon peak-hour ridership was projected from 1978 to 1981 base levels by use of a growth factor calculated for each transit agency (see Appendix A, p. 196). The growth factors were assumed to reflect total annual downtown growth, exceeding the proposed project, in the 3-year period between 1978 and 1981. The ridership from the project was added to the 1981 base ridership thus determined and an analysis of the demand-to-capacity ratios was made including known planned expansions of those systems planning expansions before 1981. The capacity increases were assumed to be 7,390 persons per hour total for Muni; 1,620 persons per hour (1,080 seats per hour) total for BART; and 750 persons per hour total for Golden Gate Transit on the Larkspur Ferry only. None of the capacities for A-C Transit, Southern Pacific or SamTrans were increased, as no documented projected increases were available for these systems.

Table 17 shows the projected ridership and demand-to-capacity ratios for 1981 conditions. As shown, the project increase during the p.m. peak hour does not increase the transit loadings by more than 3% on any system. This would not be a statistically significant change.

TABLE 17: PROJECTED 1981 PEAK OUTBOUND TRANSIT CHARACTERISTICS BASED ON CALCULATED GROWTH FACTORS

Agency*	1981 Base** Ridership	1981 Base** % Occupancy	1981 Base + Project Ridership	1981 Base + Project % Occupancy***	1981 Base + Project % Increase+
MUNI*	20,620	66	21,160	67	2.6
BART					
Transbay	8,880	76	9,130	78	2.8
Westbay	6,890	69	7,030	71	2.1
A-C Transit*	8,590	70	8,760	71	1.9
SamTrans*	740	76	750	77	1.8
SPRR	5,250	48	5,350	49	1.8
Golden Gate					
Motor Coach	5,240	81	5,350	82	2.1
Ferry	1,390	49	1,410	50	1.6
Harbor Carrier	400	58	410	59	2.5

*See Appendix A, p. 198 for routes included in projections.
**Base = Expanded from 1978 ridership based on calculated growth factors (see Appendix A, p. 198).
***Percent of total capacity occupied.
+Percent increase in projected 1981 Base ridership due to project.

PEDESTRIAN IMPACTS

Increases in pedestrian activity are projected to occur on the sidewalks surrounding the project site as a result of the project. The impact of such pedestrian increases would be an expansion of peak-hour sidewalk volumes by factors of up to about 2 (see Table 18; compare with Table 9, p. 62). This would increase the sidewalk flows by up to 3 pedestrians per foot of sidewalk width per minute, thus perceptibly altering the pedestrian level of service on the Kearny St. sidewalk from Level of Service A to B. The project increases would not cause a change in the Level of Service on the other sidewalks abutting the project (see Appendix A, p. 189, for definitions of pedestrian Levels of Service). The peak-hour crosswalk volumes would be increased similarly by the project at the intersections of Post and Montgomery Sts. and Post and Kearny Sts. The site plan could result in shorter pedestrian

TABLE 18: PROJECTED PEAK 15-MINUTE PEDESTRIAN VOLUMES IN 1981
(Project Side of Street)

Sidewalk	Effective Width*	Volume**		P/F/M***		Pedestrian Level of Service+	
		A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
Post Street	7 ft.	550	550	5	5	A	A
Sutter Street	5 ft.	380	490	5	6	A	A
Kearny Street	6 ft.	740	820	8	9	B	B
Montgomery Street	6 ft.	290	370	3	4	A	A

*Effective widths take account of poles, planter boxes, people standing at store windows, etc.
**Pedestrians per 15 minutes.
***Pedestrians per foot of sidewalk width per minute.
+See Table A-2, p. 189 for definitions and volume criteria.

distances around the site by providing routes through the galleria, which would be a more attractive route than Lick Pl. as it now exists, and between Montgomery and Kearny Sts. through the banking hall, galleria, and tower lobby or Ver Mehr Pl.

INTERNAL ON-SITE CIRCULATION AND STREET ACCESS

The proposed on-site parking area entrance and exit would provide capacity to allow vehicles access to and from the project without disrupting vehicular traffic on Sutter St.; however, there would be a potential for vehicle-pedestrian conflict on the sidewalk at the entrance. The internal vehicular circulation plan appears to be adequate to provide ready access to the parking stalls from the aisles. The project would relieve present conflicts due to service vehicles parking on surface streets for deliveries and pickups by providing loading docks underground. The loading docks would serve No. 1 Montgomery St. and 111 Sutter St., as well as the proposed tower and galleria.

CUMULATIVE TRAFFIC IMPACTS

As Downtown San Francisco is currently experiencing an increase in office building floor area, the Department of City Planning has initiated an analysis of the cumulative traffic impact of 13 buildings in the vicinity of

the proposed project (see Appendix A, p. 195) which have been completed since 1976, which are approved but not yet completed, or which are now under environmental review.

The 5 streets which serve the project as feeders to or from freeway ramps--Main, Beale, Clay, Washington and Fourth Sts.--are points of maximum automobile traffic concentration in the Financial and Downtown Districts. They are assumed to determine the "worst case" or greatest traffic impacts. The projected traffic volumes on these streets are shown below (see Table 19). Impacts on other streets would be less as traffic on them would be more dispersed.

About 50% of the generated freeway traffic uses the Bay Bridge (35% goes to the Peninsula, and 15% to Southeast and Southwest San Francisco). The total cumulative addition from 3 freeway access points--Beale, Clay, Fourth Sts.--to p.m. peak-hour Bay Bridge traffic would be about 1,500 vehicles. The ultimate effect of such an addition would be a spreading of the p.m. peak-hour bridge congestion over a longer period. The effect during the a.m. peak would be to lengthen the westbound queues at the toll plaza and at the metering signals just west of the toll plaza.

The percentage increase caused by the proposed project above the cumulative traffic is estimated to be not more than 4% on any of the freeway approach streets. The total addition to Bay Bridge traffic caused by the project would be about 90 vehicles in the peak p.m. hour. The percent increase attributable to the project over the cumulative is not statistically significant; the percent increase of the cumulative condition over the base is statistically significant.

The cumulative impact on peak-hour street capacities is shown in Table 20. The capacity of Fourth St. was analyzed at the intersection of Harrison St.; the capacity of Beale St. was analyzed at the intersection of Mission St.; the other street capacities were analyzed at mid-block locations due to the spacing between signalized intersections and the ramp locations. The midblock capacities on the streets considered can be assumed to be adequate measures of the operating levels of these streets. The capacity analysis used the critical lane method (see Appendix A, p. 190). Cumulative traffic would

TABLE 19: CUMULATIVE TRAFFIC VOLUMES IN 1981

Street	1981 Base*		1981 Base + A*		% Increase***		Base + A + B*		% Increase+	
	24-Hour	Peak Hour**	24 Hour	Peak Hour	24 Hour	Peak Hour	24 Hour	Peak Hour	24 Hour	Peak Hour
Main	14,250	1,620	16,860	2,670	18	65	17,115	2,710	1.5	1.5
Beale	8,350	1,080	10,960	2,270	31	110	11,215	2,310	2.3	1.8
Clay	30,300	2,375	31,530	2,870	4	21	31,610	2,880	0.2	0.4
Washington	16,190	2,045	17,530	2,495	8	22	17,600	2,505	0.4	0.5
Fourth	22,300	2,300	27,250	3,570	22	55	28,020	3,690	2.8	3.4

*Base = Expanded 1978 vehicle volumes (see Appendix A, p. 190).
A = Vehicle volumes from projects considered in cumulative analysis (see Appendix A, p. 195).
B = Vehicle volumes from project.
**Peak hour for Beale, Clay and Fourth Sts. is between 4:00 and 6:00 p.m.
Peak hour for Main and Washington Sts. is between 7:00 and 9:00 a.m.
***Percent increase of 1981 + A over 1981 base.
+Percent increase of 1981 + A + B over 1981 + A.

SOURCE: TJKM, Transportation Consultants

decrease the calculated vehicular Level of Service on 2 (Main and Fourth) of the 5 streets from C or better to D and on Beale St. from C to E./6/ The further impact of the project beyond the cumulative impacts would be an imperceptible lessening of the level of service of traffic operation on the street system. As shown in Table 20, the level of operation would not be decreased a full vehicular Level of Service below the cumulative conditions. An effect of increased congestion on the above streets would be a redistribution of travel patterns to less traveled routes.

TABLE 20: CUMULATIVE PROJECTED PEAK-HOUR* VOLUME-TO-CAPACITY RATIOS

Street	1981 Base**	1981 Base + A***	1981 Base + A + B+
Main	0.49	0.81	0.82
Beale	0.65	0.94	0.95
Clay	0.60	0.73	0.73
Washington	0.52	0.63	0.63
Fourth	0.58	0.83	0.85

*Peak hour for Beale and Clay Sts. is p.m. peak.
Peak hour for Main and Washington Sts. is a.m. peak.
**See Appendix A, p. 195, for a discussion of expansion factor used to calculate 1981 base.
***A = Cumulative project addition.
+B = Proposed Crocker National Bank Headquarters.

SOURCE: TJKM, Transportation Consultants

CUMULATIVE PARKING IMPACTS

The parking demand for each of the projects included in the cumulative traffic analysis and the loss or gain of parking space since 1976 in the area within 3 to 4 blocks of the site, bounded by Battery, First, Folsom, Fourth, Kearny, Bush, Grant, and Sacramento Sts. (see Figure 29, p. 60), were compiled to produce the demand and deficit figures shown in Table 21.

It is estimated that the cumulative impact would produce a parking deficit of 4,730 spaces in 1981, and that with the proposed project the cumulative deficit would rise to 5,770, an increase of 22%. This would be a statistically significant change.

TABLE 21: CUMULATIVE PROJECTED OFF-STREET PARKING DEMAND IN 1981

	Cumulative	Cumulative Plus Project
Available Spaces in 1976	2,500 spaces	2,500 spaces
Net gain (loss) of 1976 space	(1,320) spaces	(1,820) spaces
Projected Parking Demand	5,910 spaces*	6,450 spaces
Net Parking Deficit	4,730 spaces	5,770 spaces

*Not counting that from growth due to projects other than those considered in the cumulative traffic analysis.

SOURCE: TJKM, Transportation Consultants

The projected cumulative deficit in the years beyond 1981 would be aggravated by further loss of parking supply in Yerba Buena Center. This deficit could be remedied in several ways. Some drivers could park at greater distances, west toward Van Ness Ave., south beyond Folsom St., east beyond Battery and First Sts., or north beyond Sacramento St., then either walk or use Muni to reach the project site. In the years following 1981, as further office expansion occurs, particularly in the Yerba Buena Center area, this option would be foreclosed, because of expanded parking demand, unless a large expansion of parking supply were to occur in the Downtown and South-of-Market areas.

Parking deficits could encourage the use of car pools and van pools, or the creation of satellite parking facilities in outlying neighborhoods, with shuttle or expanded Muni service to the downtown area, or increased use of transit directly from home (San Francisco) or from suburban centers (East Bay, North Bay, Peninsula). Peninsula residents, for example, could find Southern Pacific commuter trains more attractive if they could get no closer to downtown with their cars than the train terminal at Fourth and Townsend Sts. All transit options would add to the burdens of the transit system, particularly Muni.

CUMULATIVE TRANSIT IMPACTS

An analysis was made, parallel to the cumulative parking and traffic analyses, of the cumulative transit impacts due to development in Downtown San Francisco (see Appendix A, p. 197). The transit analysis covered a 1-hour period during which the demand on individual routes varied from less than seated capacity to total capacity. Analysis of the transit data allows a reasonable assumption that for short periods of time (15 to 30 minutes) certain routes experience loadings nearer to 100% of total capacity than the loadings shown in Table 22. The loadings shown are the results of averaging ridership of full vehicles with partially empty vehicles, thus equalizing the loads over the 1-hour period. As the cumulative demand increases, the length of time of peak loadings will increase, thus forcing a spreading of peak-of-the-peak conditions over time./7/ It is not possible to quantify the extent to which peak-of-the-peak conditions would be increased on each route because the bunching of transit vehicles varies from day to day.

The routes most likely to be overloaded for short periods of time are the Muni lines, the Golden Gate Transit motor coaches, and BART transbay trains (see Appendix A, p. 198, for routes included in projections).

The only agency projected to operate at greater than 90% of total capacity is SamTrans. The disproportionate apparent overrun of the SamTrans capacity is due to the newness of the service, resulting in a lack of historical growth data which could be used for accurate growth projections./8/ The percent increase from the project over the cumulative volumes would not be statistically significant. However, the cumulative increases over the base volumes would be statistically significant for all but Harbor Carriers.

NOTES - Transportation, Circulation, and Parking

/1/ The data for the length of the demolition, excavation, and construction periods are shown in the project schedule available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St., Room 319.

/2/ See p. 96 for projections of project employment.

/3/ The estimate of 1,280 trip ends from the retail is a result of applying a generation rate of 30 pte/1,000 sq. ft., which results in 2,565 pte/day. Assuming that 50% of the travel to the retail uses is made by building employees, 50% of the retail travel, or 1,280 pte, would be "new" to the site.

TABLE 22: PROJECTED 1981 PEAK OUTBOUND TRANSIT CHARACTERISTICS BASED ON CUMULATIVE EIR DATA

Agency*	1981 Base**		1981 Base + A**			1981 Base + A + B**		
	Ridership	% Occupancy***	Ridership	% Occupancy***	% Increase+	Ridership	% Occupancy***	% Increase++
MUNI*	19,840	63	25,760	82	27	25,760	82	2.1
BART								
Transbay	7,750	66	9,320	80	20	9,570	82	2.7
Westbay	6,020	61	6,990	70	16	7,130	72	2.1
A-C Transit*	8,590	70	9,470	77	10	9,640	78	1.8
SamTrans* +++	630	64	1,750	180	180	1,770	181	0.7
SPRR	4,460	41	4,940	45	11	5,030	46	1.9
Golden Gate								
Motor Coach	4,580	71	5,230	81	14	5,340	82	2.1
Ferry	1,220	43	1,390	49	14	1,410	50	1.6
Harbor Carriers	350	50	370	52	4	380	54	2.7

*See Appendix A, p. 198 for routes included in projections.
**Base = Expanded from 1978 ridership (see Appendix A, p. 199 for methodology).
A = Cumulative ridership
B = Project ridership
***Percent of total capacity occupied
+Percent increase in ridership of 1981 Base + A over 1981 Base.
++Percent increase in ridership of 1981 Base + A + B over 1981 Base + A.
+++See Note /8/.

SOURCE: TKJM, Transportation Consultants

/4/ $\frac{38,700 \text{ VM/Day}}{15.2 \text{ VM/Trip/Day}}$ x 1.36 persons (average vehicle occupancy, as derived from questionnaires) =

3,470 Person Trip Ends/Day, as shown in Table 14, p. 108.

/5/ The parking demand was calculated by using the following equation:

Parking demand = (Vehicle trip ends / 2 trip ends/round trip) x (daytime proportion* / turnover rate**)

*the daytime proportion = 75%; nighttime demand is less than capacity.

**the turnover rate = 1.5 (uses of each space per day).

Vehicle trip-ends were derived from person trip-ends through the use of an average vehicle occupancy factor of 1.36 developed from the questionnaire data.

/6/ Although the volume-capacity ratio on some streets is higher than Level of Service C, other factors such as low speeds, pedestrian conflicts, and double parking reduce the service levels to "C" in the judgment of the transportation consultant.

/7/ Peak-of-the-peak conditions may occur for periods of 15 to 30 minutes during the peak hour. At these times, carriers experience maximum loads in excess of the peak hour average.

/8/ The SamTrans service to downtown San Francisco was initiated in July of 1977 and as such does not lend itself to any type of refined growth projections. The mainline routes to downtown San Francisco were grouped by SamTrans with a block of routes for projection purposes; hence, the overall projections for the group of routes do not exactly reflect the ridership changes on a single route. The method of increasing the capacity of the transit systems for this 1981 analysis considered only definite capacity increases (i.e., those that are well documented). SamTrans is currently operating at approximately 60% of total capacity on the mainline routes, clearly covering the demand. The analysis of the 1981 Base + A occupancy added all of the cumulative transit trips in a lump sum, which had the effect of tripling the existing ridership and creating an apparent, artificial capacity shortage. As the cumulative projects would be spread over time, the

increases in demand would be gradual and SamTrans would be expected to increase capacity to meet increased demand on a gradual basis. (F. Dock, Traffic Engineer, TJKM, letter communication, 8 December 1978.)

F. METEOROLOGY AND AIR QUALITY

WIND

According to wind-tunnel tests described earlier (see p. 64), the project would increase northwest wind speeds along much of Post St. from the low-to-moderately-low range to the moderate-to-moderately-high range. At the Crocker Plaza, by the Aetna Building, speeds would be reduced from the moderately-low-to-moderately-high range to the low-to-moderate range. At the intersection of Kearny and Sutter Sts. speeds would also be reduced from the moderately-low-to-moderately-high range to the moderately-low-to-moderate range.

The project would result in the channeling of west winds down Post St., increasing their speeds from the low range to the moderately-low-to-moderately-high range. Wind speeds would also increase from the low-to-moderately-low range to the moderately-low-to-moderately-high range along Montgomery St., Sutter St. and Kearny St. The already high winds at the east corner of Montgomery and Post Sts. would also be increased. Speeds in the Aetna Plaza would decrease from moderate to moderately low.

The open-ended lower level of the proposed north-south shopping galleria between Sutter and Post Sts. would have potential for being windy during both westerly and northwesterly winds. Wind speeds there cannot be determined, however, due to the scale of the test model. The low-rise rooftop areas, including the proposed rooftop terrace, would experience moderately low speeds on the Sutter St. side and high speeds on the Post St. side during both northwest and west winds.

AIR QUALITY

Two types of air quality impacts would result from the proposed project: short-term construction impacts and long-term vehicle-related impacts. Demolition, grading, and construction activities would affect local air quality for approximately 2 years. Construction activities would generate approximately 1.2 tons of particulates (dust) per acre per month of activity./1/ This would include emissions from demolition, excavation and earthmoving, traffic on unpaved surfaces, wind erosion, and construction of the buildings. Assuming a total of 27 months of construction activity on the 1.2-acre construction site, a total of approximately 40 tons of particulates would be generated. Without mitigation this could result in 24-hour average concentrations of approximately 5,500 micrograms per cubic meter (ug/m3) at and adjacent to the site. This would be 55 times the State 24-hour standard of 100 ug/m3. Maximum 8-hour average concentrations would be on the order of 3 times the 24-hour concentration; no standard has been established for 8-hour particulate concentrations. Except to people with respiratory problems, large-size construction particulates are more an annoyance than a health hazard, and settle out of the atmosphere rapidly with increasing distance from the source. This is in contrast to gaseous pollutants and small-size particulates from combustion.

The possible use of oil-based paints for interior coating would generate hydrocarbon emissions, typically 500-700 grams per liter of paint used. Regulation 9 of the (Bay Area Air Quality Management District (BAAQMD) prohibits the sale and application of any architectural coating containing more than 250 grams of volatile organic material per liter after 2 September 1980./2/ The possible use of asphalt for roofing would also generate small amounts of hydrocarbon and odor emissions, subject to Regulations 2 and 3 of the BAAQMD. Diesel-powered construction equipment would emit (in decreasing order by weight) nitrogen oxides, carbon monoxide, sulfur oxides, hydrocarbons, and particulates./3/ The amounts of these pollutants generated during construction would increase local concentrations but would probably not increase the frequency of violations of air quality standards.

Long-term air quality impacts would result primarily from vehicular emissions. Combustion of natural gas for space and water heating would also

generate small amounts of pollutants (primarily nitrogen oxides) relative to traffic. Daily emissions of the 3 most important pollutants (carbon monoxide, hydrocarbons, and nitrogen oxides) resulting in 1981 from all project-related vehicular traffic and from stationary natural gas combustion were calculated and are shown in Table 23. These are the only 3 pollutants for which vehicular emission rates are currently available.

TABLE 23: PROJECTED DAILY PROJECT-GENERATED EMISSIONS IN 1981 (tons/day)

	Natural Gas Combustion*	Vehicular Fuel Combustion**	Total Project Emissions	1985 Estimated Regional Emissions***
Carbon Monoxide	0.001	6.629	6.630	4,010
Hydrocarbons	negligible	0.697	0.697	800
Nitrogen Oxides	0.004	0.678	0.682	690

*Natural gas used for space and water heating and other building operations. U.S. Environmental Protection Agency (U.S. EPA), 1977, Compilation of Air Pollutant Emission Factors, AP-42, Third Edition.
**U.S. EPA, 1978, Mobile Source Emission Factors, Final Document (Supplement 8).
***Association of Bay Area Governments (ABAG), 1977, Air Quality Maintenance Plan Brief #3. The region is the 9-county Bay Area Air Quality Management District.

SOURCE: Environmental Science Associates, Inc.

Under worst-case meteorology, roadside carbon monoxide (CO) concentrations on the 3 streets most affected by the project were calculated for 1978, the 1981 base-case and the 1981 project-case (base-case with the project). The results are shown in Table 24. The largest increase due to the project, 4% for the peak-hour, and the highest concentration would occur on Fourth St. Concentrations on Fourth St. would reach 16.8 ppm and 4.5 ppm (peak-hour and peak 8-hours respectively), or 48% and 50% of the Federal (most restrictive) standards (35 ppm for 1 hr. and 9 ppm for 8 hrs.). In all cases, both the base-case and project-case concentrations would be lower than the calculated existing concentrations. This is because increasing traffic volumes would be offset by decreasing emission rates per vehicle mile, until approximately 1987./4/

A roadside CO analysis which includes certain other projects in the area was also done; the results are also shown in Table 24. In this case peak-hour CO concentrations on Fourth St. would reach 24.0 ppm (69% of the Federal standard) in 1981; 8-hour concentrations would reach 6.0 pm (67% of the standard).

TABLE 24: PROJECTED LOCAL ROADSIDE CARBON MONOXIDE IMPACTS IN 1981

		Concentration*					
Street	Averaging Time	1978	1981 Base-case	1981 Project-case	% Change**	1981 Cumulative-Case***	% Change**
Fourth	1-hour	20.5ppm	16.1ppm	16.8 ppm	+4%	24.0 ppm	+49%
	8-hour	5.1	4.4	4.5	+3	6.0	+36
Beale	1-hour	11.1	9.1	9.4	+3	16.7	+84
	8-hour	3.0	2.7	2.8	+4	4.1	+52
Main	1-hour	15.4	12.3	12.6	+2	18.5	+50
	8-hour	3.9	3.4	3.5	+3	4.6	+35

*Calculations were made for worst-case poor dispersion meteorology according to BAAPCD (now BAAQMD), 1975, Guidelines for Air Quality Impact Analysis of Projects, updated for EPA Supplement 8 emission rates, 1978. Background concentrations were assumed to be 3.4 ppm (1 hour) and 1.7 ppm (8 hour), per SPUR, 1974, Impact of Intensive High Rise Development on San Francisco, Detailed Findings.
**Percent change over 1981 base-case.
***Project-case plus other projected Downtown office development included in traffic analysis (see Appendix A, p. 195).

SOURCE: Environmental Science Associates, Inc.

In summary, implementation of the project would add to local and regional accumulations of CO, hydrocarbons and nitrogen oxides (the latter 2 being precursors of ozone), particulates, and sulfur oxides during adverse meteorological conditions, such as inversions. The recently adopted regional Air Quality Plan/5/ found that ozone would continue to be a problem in the future, and that substantial reductions in hydrocarbon emissions would be necessary to attain and maintain the ozone standard in the Bay Area. CO and particulates are also problems on a local scale. Because the project would increase emissions of hydrocarbons, CO, and particulates, attainment of the standards would be impeded. The project would probably have no measurable

impact on citywide or regional concentrations nor on the frequency of standard violations. Cumulative development, on the other hand, could increase ambient concentrations and the frequency of standard violations, if the control strategies for other emission sources that are currently envisioned in the Air Quality Plan are not implemented.

NOTES - Meteorology and Air Quality

/1/ U.S. Environmental Protection Agency (U.S. EPA), 1975, Compilation of Air Pollutant Emission Factors, Supplement #5, p. 11.2.4-1.

/2/ Bay Area Air Quality Management District, Regulation 9, Rule for Architectural Coatings, adopted 1 March 1978.

/3/ U.S. EPA, 1975, Compilation of Air Pollutant Emission Factors, Supplement #4, pp. 3.2.7-2,-3.

/4/ Dr. R. Wada, Association of Bay Area Governments (ABAG), telephone communication, 22 November 1978.

/5/ ABAG, BAAQMD, and the Metropolitan Transportation Commission (MTC), January 1979, 1979 Bay Area Air Quality Plan, San Francisco Bay Area, Environmental Management Plan.

G. NOISE

The potential noise impacts associated with the proposed project fall into 3 categories: the impact of the existing noise environment on the proposed use of the site; the impact of noise generated by the use of the site on adjacent development; and the impact of construction noise on adjacent development.

COMPATABILITY OF THE PROPOSED PROJECT WITH EXISTING NOISE LEVELS

The City and County of San Francisco has adopted guidelines for determining the compatibility of various land uses with different noise environments. For the office and retail-commercial use category to which the proposed tower and galleria belong, the guidelines state that proposed uses are acceptable with no special noise reduction requirements in a noise environment up to 70 Ldn. From 70 to 75 Ldn, the guidelines state that new office or retail development should be undertaken only after analysis of the noise reduction requirements

and inclusion of needed noise insulation in the design. This recommendation would apply to all street frontages of the proposed project (see Table 11, p. 70). In the proposed new tower, there would be no offices below the fourth story; above that floor, Ldns would be expected to be less than 70, thus requiring no noise-insulation features. The maximum expected noise exposure at the site is 75 Ldn. As the offices and individual retail businesses would be climate-controlled and would therefore have fixed windows, traffic noise levels inside the buildings would not interfere with the proposed office and retail uses; that is, needed noise- insulation features are implicitly included in the design. These uses would therefore be compatible with the goals of the City guidelines. Of interest also is the noise exposure of the pedestrians shopping or resting in the proposed galleria. As there would be no vehicular traffic in this space, noise levels would range from 75 Ldn near Post St. and Sutter St. to below 60 Ldn in the middle of the block.

The noise exposure for shoppers in this area would therefore be less than the noise exposure for pedestrians along Kearny, Sutter, Post or Montgomery Sts.

NOISE IMPACTS DUE TO PROJECT OPERATION

After completion, the project could affect noise levels in 2 ways: traffic noise could increase due to increased traffic generated by the project, and mechanical equipment could cause an increase in noise. The amount of traffic generated by the proposed development during any hour of the day would cause traffic noise levels to increase by less than 1 dBA along any of the adjacent streets, an increase undetectable by the human ear.

Mechanical equipment to be used on the site has not yet been chosen. The City of San Francisco's Noise Ordinance, No. 274-72, Regulation of Noise/1/ requires that noise from mechanical equipment at the proposed development not exceed 60 dBA between the hours of 10 p.m. and 7 a.m. or 70 dBA between the hours of 7 a.m. and 10 p.m. at the receiver's property line. Mechanical equipment associated with the project would be designed to meet these limits.

As the noise levels at the nearest buildings on the project block and across the street presently dip to 62 to 65 dBA during the daytime, mechanical equipment generating 70 dBA would be audible during lulls in the traffic.

Because there is a hotel on the block at the corner of Kearny and Sutter Sts., the noise level limit of 60 dBA at night is potentially important. Although it is likely that at night, noise of mechanical equipment at 60 dBA would be audible at the hotel, it is not anticipated that the noise from such equipment would interfere with the use of the hotel.

NOISE IMPACTS DUE TO PROJECT CONSTRUCTION

Project construction would occur in 3 stages: demolition, excavation, and construction of new buildings. Throughout the 27-month construction period, trucks would be visiting the site, initially hauling away dirt and debris and then bringing materials. These activities would temporarily increase noise levels in the surrounding area.

The San Francisco Noise Ordinance/1/ limits the noise emission of powered construction equipment, except impact tools, to 80 dBA at 100 ft. It also prohibits construction work at night from 8 p.m. to 7 a.m. if the noise emission from such work exceeds the ambient noise level by 5 dBA at the property line, unless a special permit is authorized by the San Francisco Department of Public Works. Both the intake and exhaust of impact tools including jackhammers, pavement breakers, and piledrivers must be muffled to the satisfaction of the Director of Public Works. This project would require no impact piledrivers, because galleria foundations would be on spread footings and the tower foundation would be an 8-ft.-thick mat slab, each of which distribute the weight of the structure evenly over their sites.

During construction, many types of equipment are used. Typical demolition and construction noise levels anticipated for this project are:

Equipment Type	dBA at 50 feet
Air compressor	81
Concrete pumper	85
Backhoe	85
Impact wrench/2/	90 - 95
Bulldozer	87
Grader	85
Jackhammer (pavement breaker)	88
Truck	86

Across the streets on all sides from the proposed site are older office buildings and/or retail shops. In addition, 2 older office buildings (111 Sutter Street and No. 1 Montgomery St.) would remain on the proposed site. The 111 Sutter Building and the buildings across the street from the project site are particularly sensitive to noise as they rely on open windows for fresh air. Buildings with closed windows provide about a 25 to 30 dBA reduction from outdoor noise levels; buildings with open windows provide about a 10 to 15 dBA reduction from outdoor noise levels. The newer office buildings around the site, including the Aetna Building and the Wells Fargo Building at 44 Montgomery Street, are climate-controlled and have fixed windows.

During the 6-month period of erection of the steel frame for the proposed tower, noise levels inside the nearest non-climate-controlled office buildings would reach levels of up to 80 dBA, if the windows are open. For comparison, present maximum noise levels in these offices with the windows open are about 73 dBA. If the windows are closed, current interior noise reaches a level of 70 dBA. These maximum levels would occur during the time impact wrenches are being used. As impact wrenches are used sporadically (i.e., short bursts of noise followed by short periods of inactivity) the effect of this noise on workers in these buildings would be to startle them and distract them from their work. Workers would find it difficult to carry on a telephone conversation during these periods of maximum noise generation. During other construction activities, construction noise would be audible in these buildings but would not be appreciably noisier than the present traffic noise.

Truck traffic during construction is expected to reach a maximum of 6 trucks per hour. This volume would not measurably increase the noise level along adjacent streets.

NOTES - Noise

/1/ San Francisco Municipal Code, Part II, Chapter VIII, Section 1, Article 29.

/2/ An impact wrench is a pneumatically-operated wrench similar to those used for the lugnuts of automobile wheels.

H. ENERGY

During the 27-month construction period, direct consumption of energy on the project site would be approximately 3.3 million kilowatt-hours (KWH) of electricity (or 33.8 billion British Thermal Units (BTU)),/1/ 20,000 gallons of gasoline (2.6 billion BTU), and 30,000 gallons of diesel fuel (4.2 billion BTU)./2/ In addition, an unknown amount of energy would be required indirectly to fabricate and transport materials used in demolition and construction.

The project would be designed and constructed to meet minimum standards for energy conservation established by the California Energy Commission./3/ A study of 30 different design alternatives for the tower was undertaken by the project architects and engineers, using an annual-energy-budget computer program to determine compliance with the standards and facilitate selection of the most energy-efficient and cost-effective alternative.

The HVAC (heating, ventilating, air-conditioning) system alternative chosen would use an all-air, variable-air-volume circulation system with perimeter reheat; standard electric-driven water chillers for cooling; natural-gas-fired boilers with fuel-oil backup to generate steam for heating (or alternatively, would use steam available from PG&E), and single-pane window glazing. This alternative would have the lowest energy use, lowest investment cost, and lowest operating cost of those considered./4/

Preliminary projections of the average daily and monthly operational energy consumption of the entire project are shown in Table 25./5/ The connected kilowatt load (total load of all electrical facilities in the building if they were to operate at the same time) would be approximately 9,400 KW. Peak at-source (generating plant) fossil-fuel consumption for electricity would be approximately 73.4 million BTU per hour at 12 noon (due to air-conditioning), with a lower peak of 5.9 million BTU per hour at 4 p.m. (due to elevator use), both on August weekdays. Peak at-source fossil-fuel (natural gas) consumption for steam generation would be approximately 13.9 million BTU per hour at 8 a.m. (due to heating after nighttime temperatures), with lower peaks of 9.8 million BTU per hour at 10 p.m. (to keep buildings warm during the evening), and 4.8 million BTU per hour from noon to 1 p.m. (for hot water), all on

January weekdays. PG&E's peak-use periods are 4-6 p.m. in August and 6-9 p.m. in January for electricity and natural gas, respectively. Daily and annual demand distribution curves for electricity and steam are shown in Figures 38 and 39, pp. 131 and 132.

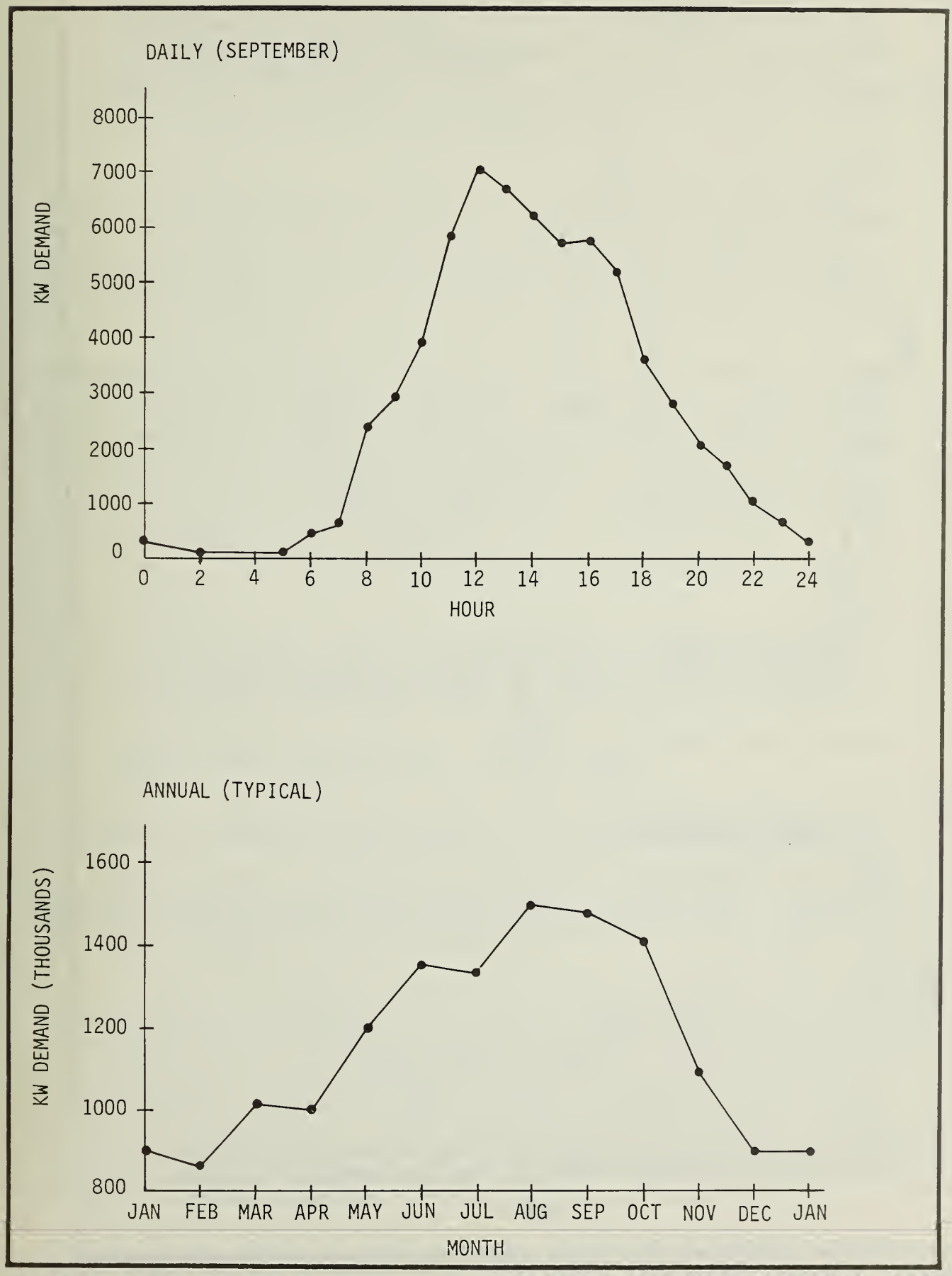
TABLE 25: PROJECTED AVERAGE DAILY AND MONTHLY OPERATIONAL ENERGY CONSUMPTION

	Daily (M-F)		Monthly	
	Total	Per Square Foot	Total	Per Square Foot
Average Electrical Consumption				
Point-of-Use	56,510 KWH	0.06 KWH	1,243,200 KWH	1.31 KWH
At-Source*	5,786 Therms**	610 BTU	127,290 Therms	13,410 BTU
Average Natural Gas Consumption				
Point of Use	58,330 ft^3	0.06 ft^3	1,286,000 ft^3	1.36 ft^3
At-Source	674 Therms	71 BTU	14,850 Therms	1,565 BTU
Total Energy Consumption				
At Source	6,460 Therms	680 BTU	142,140 Therms	14,975 BTU

*At-source energy was translated into the equivalent heat content (therms and BTU) of KWH of electricity and cubic feet of natural gas. It equals the point-of-use energy consumption plus energy losses in generation, transmission, and distribution.
**One Therm equals 100,000 BTU.

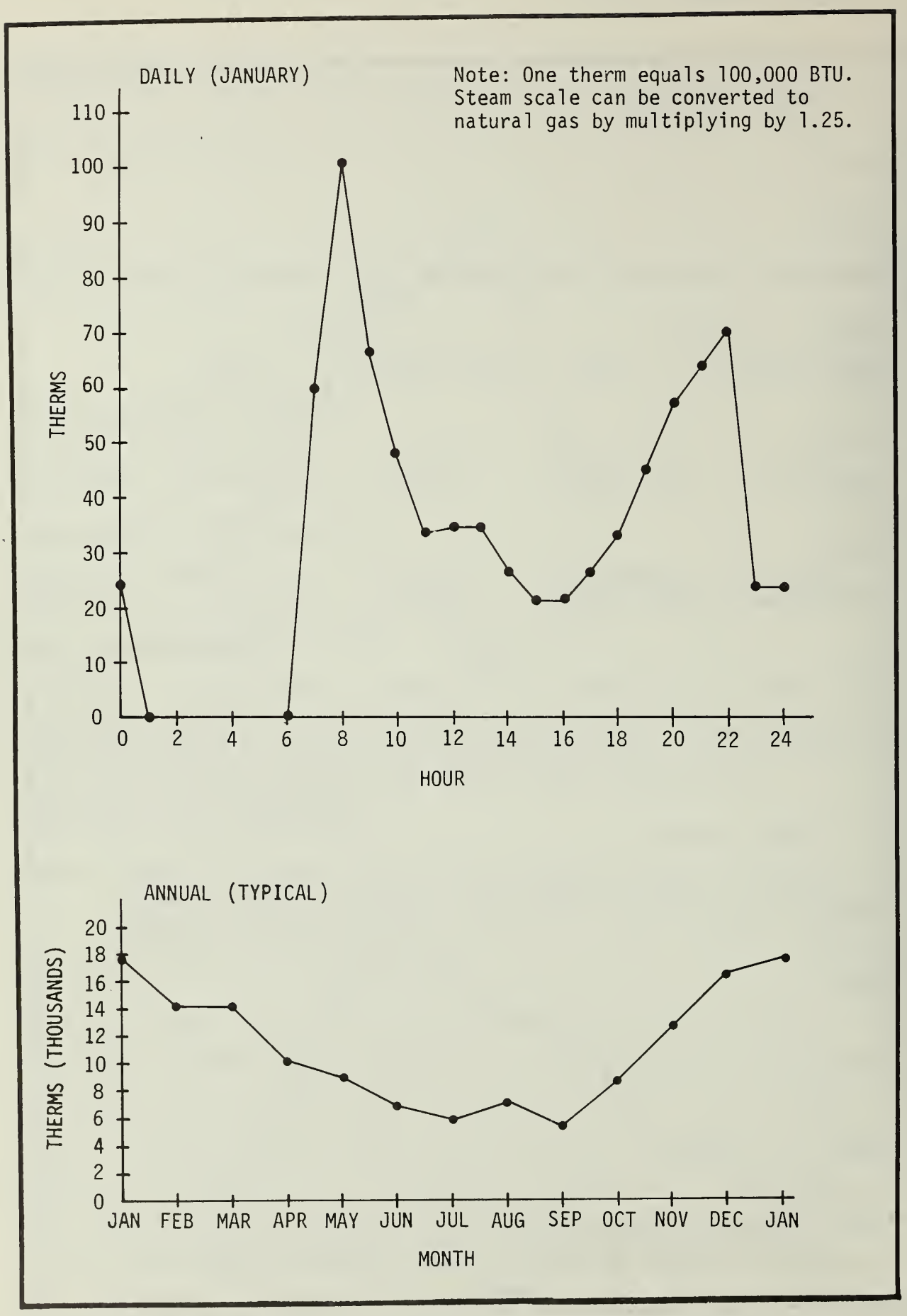
SOURCE: Compiled from the following letter communications: R. Towle, Skidmore, Owings, & Merrill, 7 March 1979: S. Edgett, Skidmore, Owings & Merrill, 2 November 1978; and R. Towle, Skidmore, Owings & Merrill, 17 October 1978.

The actual energy impact of the project would be less than the above projections indicate because approximately 18,000 square feet of office space, 32,000 square feet of retail/restaurant space, and 140,000 square feet of parking space which would be demolished would no longer use gas and electric energy. As indicated earlier (see p. 68), the amount of current energy usage cannot be quantified due to the unavailability of historical data for the 74 firms occupying this space and the lack of general energy use factors for buildings built prior to adoption of the State Energy Commission Standards.



SOURCE: Skidmore, Owings & Merrill and Cammisa and Wipf, Consulting Engineers

FIGURE 38: PROJECTED ELECTRICAL LOAD DISTRIBUTION CURVES



SOURCE: Skidmore, Owings & Merrill; and Cammisa and Wipf, Consulting Engineers

FIGURE 39: PROJECTED STEAM DEMAND DISTRIBUTION CURVES

The estimated cumulative energy impact of this project plus other downtown office development projected to occur by 1982 would be approximately 23.2 million KWH per month (31 KWH/sq. ft./month) of electricity, and approximately 2.4 cu. ft. of natural gas per sq. ft. per day.

In order to provide electric service to the proposed project, PG&E would install a transformer vault at the site. No other major modifications to existing electricity or gas delivery systems would be required and PG&E anticipates no difficulty in providing the project with complete service./6/

Implementation of the project would also increase energy consumption because of increased vehicular travel. Direct fuel consumption is estimated to be approximately 234 million BTU per day and indirect fuel consumption (due to manufacturing and maintenance) is estimated to be approximately 45 million BTU per day, for a total transportation energy use in 1981 of approximately 279 million BTU per day.

NOTES - Energy

/1/ BTU (British Thermal Unit) is a standard unit for measuring heat. Technically, it is the quantity of heat required to raise the temperature of one pound of water 1 degree Fahrenheit (251.98 calories) at sea level.

/2/ Dinwiddie Construction Company, 17 August 1978, Inter-office Memorandum, and L. Bedard, letter communication, 7 December 1978.

/3/ California Energy Commission, 26 July 1978, Regulations Establishing Energy Conservation Standards for New Residential and New Nonresidential Buildings.

/4/ Skidmore, Owings, & Merrill, 30 November 1978, Crocker National Bank World Headquarters San Francisco HVAC System Studies. A copy of this study is available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St., Room 319.

/5/ For comparison, the monthly total point-of-use electricity and natural gas consumption shown in Table 25, p. 130 would be approximately 54,000 and 2,000 times that of the average residence in San Francisco, respectively. The energy efficiency of the proposed tower is similar or superior to that of highrises built or proposed in San Francisco since the adoption of State energy standards in 1974, and superior to that of highrises built prior to adoption of the standards. A table comparing energy efficiencies of highrises built in San Francisco before and after adoption of the standards is available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St., Room 319.

/6/ R.H. Fohlen, Industrial Power Engineer, Pacific Gas & Electric Company, letter communication, 24 August 1978. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

I. COMMUNITY SERVICES AND UTILITIES

Construction of the proposed office structure and shopping galleria could increase the number of shoplifting, burglary, robbery, and other types of retail-related crime incidents at the project site./1/ The San Francisco Police Department's Central Station anticipates that existing police staff would be able to respond to these additional project-related calls and that the proposed project would not require the hiring of any additional officers./1/

Approximately 30 security guards, 20 more than are on the present Crocker security staff, would be responsible for internal security protection throughout the proposed project. The internal security system would be intended to be self-sufficient; City police would only be called to make an actual arrest. (See p. 149, for a discussion of project security measures.)/2/

The Bank would use the new underground parking garage for its money transfer operations, which would be more secure than the Bank's present use of Lick Pl. for these transfers./2/

The proposed project would incorporate into its design and operating procedures fire protection measures that are required by the San Francisco Fire Department and Building Code, including internal fire alarm and automatic fire extinguishing systems. Existing water distribution systems would be adequate to provide required fire flows for the proposed project. The Fire Department does not anticipate the need for additional fire-fighting staff or equipment (see p. 149 for a discussion of the project's internal fire protection measures)./3/

Water used by the proposed project would be an estimated 216,000 gallons per day, or about 13 times the current water use at the project site./4/ This amount would represent approximately 0.3% of the average total daily San Francisco water use. The Water Department anticipates that the new water demand could be met without system improvements of any type./5/

Projected water demand would represent less than 1% of the current capacity of the University Mound Reservoir and would be met by existing water mains located on Kearny and Post Sts. Once determined, the street from which water service would be extended to the proposed project would be excavated from the main to the site. One lane of traffic would be disrupted for up to 3 days during this activity./5/

Cumulative downtown office development, projected to occur before 1982 would use an estimated 2,759,000 gallons per day, 3.5% of the average daily San Francisco water use.

At full occupany, dry-weather wastewater flows generated by the project site are anticipated to be approximately 176,000 gallons per day or about 20,000 gallons per hour during daytime working hours./4/ Project flows would represent 0.3% of the dry-weather flows at the North Point Plant. There is sufficient sewer capacity to accommodate the these flows without any system modifications./6/

The increased flows generated by the project would contribute to the storm overflows of sewage into the Bay during wet weather until projects under design to reduce these overflows are completed in 1986./7/ Cumulative downtown office development projected to occur before 1982 would generate an estimated 1,755,000 gallons per day, 3.4% of the average daily dry-weather flows received at the North Point Plant.

According to the guidelines developed by the State Solid Waste Management Board, the proposed project would generate about 5 tons per day of solid waste which would represent approximately 0.3% of the Golden Gate Disposal Company's current total daily volume of about 1,500 tons./8/ The company estimates that this load would require daily collection by a compactor truck and anticipates no difficulty in providing service to the proposed project./9/ Cumulative downtown office development projected to occur before 1982 would generate an estimated 71.6 tons per day of solid waste, 4.8% of the company's current daily volume.

NOTES - Community Services and Utilities

/1/ C. Murphy, Captain, Central District, San Francisco Police Department, telephone communication, 7 November 1978.

/2/ J. R. Dixon, Vice President and Director of Security, Crocker National Bank, telephone communication, 6 November 1978.

/3/ W. J. Graham, Fire Marshal, San Francisco Fire Department, personal communication, 18 August 1978.

/4/ Skidmore, Owings & Merrill, Project Architects and Engineers, written communication, 2 March 1979.

/5/ J.E. Kenck, Manager, City Distribution Division, San Francisco Water Department, letter communication, 25 August 1978. This letter is available for public review at the Office of Environmental Review, 45 Hyde St.

/6/ J.M. de la Cruz, Section Engineer, San Francisco Department of Public Works, Bureau of Sanitary Engineering, letter communication, 17 August 1978. This letter is available for public review at the Department of City Planning, Office of Environmental Review.

/7/ M. Francies, Engineer Associate II, San Francisco Department of Public Works, Bureau of Sanitary Engineering, Wastewater Flow Control Division, telephone communication, 23 October 1978.

/8/ State of California Solid Waste Management Board, 1974, "Solid Waste Generation Factors in California," 1 lb./100 sq. ft. of floor space/day.

/9/ F. Garbarino, Office Manager, Golden Gate Disposal Company, telephone communication, 8 August 1978.

J. GEOLOGY, SEISMOLOGY, AND HYDROLOGY

GEOLOGY

The net building loads beneath the office tower would probably cause some settlement due to compression of the sands and consolidation in the underlying layer of stiff clay. The total settlement is estimated at 1.5 to 2 inches, of which about 80% would probably occur within 1 year of building completion./1/ Because the galleria and its subsurface parking and service levels would exert less bearing pressure than the highrise office structure, differential settlement between the 2 structures could be as much as 1.5 inches. Because the tower and galleria would have separate foundation and

structural systems, and because the settlement can be accommodated in the design and construction of both structures, the settlement is not expected to present a problem./2/

During site excavation, the removal of earth from the site could cause the spillage of silt and sand in the streets along the haul routes. This dirt could present a safety hazard for operators of vehicles, particularly motorcyclists and bicyclists. The dirt could also be a source of airborne dust, and siltation in affected stormdrains. Hauling of earth could extend over a period of approximately 75 days, the estimated duration of excavation activities./3/

SEISMOLOGY

Strong ground shaking during a major earthquake might damage the proposed office tower and galleria, but would not be expected to cause them to collapse or topple. The structures would be designed to meet the seismic design standards of the San Francisco Building Code, and the seismic standards of the Uniform Building Code (UBC) or the Structural Engineers Association of California (SEAOC). The latter design standards relate the structural design to the maximum probable earthquake in the region, an 8.3 Richter magnitude/4/ event on the San Andreas Fault. The buildings would be designed on the basis of dynamic analyses related to projected movements potentially created by the earthquakes ranging in Richter magnitude from 5 to 8. Such a design approach would help mimimize damage in a moderate earthquake (magnitude 5-6), and prevent collapse under the maximum probable earthquake.

The office tower would be constructed with a structural steel frame and a foundation on an 8-ft. thick mat slab. The lateral force resisting system (i.e., the system which would prevent the building from collapsing or toppling due to the horizontal movements created by an earthquake) would be an exterior tube construction with closely spaced columns. Elevators and staircases would also be of steel frame construction. Because the building would have an elastic design, the top of the building would have a maximum sway of no more than 21 inches in a major earthquake./4/ This is the SEAOC recommendation for maximum allowable building sway for a structure of this height and type.

Swaying motions of the tower during an earthquake could damage the glass and masonry exterior of the office tower. The approach to the design and strength of these panels would be similar to that for other high-rise buildings in San Francisco and would accommodate the maximum anticipated lateral movement without breaking or falling. The likelihood of glass and masonry panels falling during an earthquake would thus be reduced, although the hazard could not be eliminated.

The galleria would be a steel frame structure with concrete floors. The frame would be separate from the office tower and the No. 1 Montgomery Street building. The galleria would also be designed to UBC standards. By meeting these design criteria, the likelihood of ground shaking causing glass panels to break and fall would be greatly reduced, although the hazard could not be eliminated. An additional hazard is created by the adjacent old buildings (the Sutter Hotel and the 111 Sutter Building) which do not meet UBC design criteria for earthquake safety. A collapse or partial collapse of the brick walls of those buildings could cause bricks and debris to fall, which could break or knock loose the glass panels of the galleria.

No. 1 Montgomery St. and the banking hall do not presently meet UBC standards of seismic safety, having been constructed in 1909 and 1921, respectively. There are presently no plans to ensure the stability of those structures in an earthquake. Under the existing San Francisco Building Code, no upgrading of these structures would be required./5/ However, both structures potentially could be heavily damaged, possibly leading to collapse in a major earthquake, unless structural reinforcement were provided./6/

If liquefaction and lateral landsliding were to occur in the vicinity, water mains, pipes and underground utility lines could break, leaving the building without water, power, or telephone communications. Elevators could be made inoperable due to loss of power or damage to the elevator system. Local streets could buckle or crack due to lateral landsliding accompanying liquefaction or rapid settlement.

HYDROLOGY

Dewatering would be conducted in the excavation for an estimated period of 6 months. The potential rate of flow has not been estimated, although it is expected to be negligible based upon the consulting contractor's previous experience with dewatering for the Aetna Building located just to the south of the site, and the 555 California St. Bank of America building, located 3 blocks to the north of the site./6/ All the water would be discharged into the storm drain system.

The geotechnical consultant has recommended that the groundwater level be lowered approximately 4 feet below the planned foundation level (to approximately 56 ft. below grade) by pumping from a series of perimeter wells during construction of the office tower. The dewatering could cause up to 1 inch of settlement in the soils adjacent to the excavation, and up to 1/2 inch of settlement as far as 200 ft. from the excavation./3/ Settlement of the geologic materials could cause the walls of old brick and masonry buildings in the immediate vicinity of the site to crack or lean out of plumb, and could cause floors to bend or tilt out of horizontal. The consulting contractor believes that such damages would be negligible because all neighboring buildings are on rigid footings./3/

Settlement caused by dewatering also may cause cracks or swales/7/ in adjacent streets and sidewalks and could damage underground utility lines. Because of the potentially high costs of repairs associated with such damages, the Department of Public Works generally requires that a surety bond be posted before issuance of permission for excavation. The construction contractor would be held responsible for any damage which might result from dewatering.

The temporary lowering of the groundwater levels is not expected to have permanent impact upon groundwater conditions in the area, which are expected to return to normal following the cessation of dewatering.

NOTES - Geology, Seismology, and Hydrology

/1/ C. Basore, Associate, Woodward-Clyde Consultants, letter communication, 16 August 1978. A copy of this letter is on file with the Department of City Planning, Office of Environmental Review, 45 Hyde St., Room 319.

/2/ S. Johnson, Chief Structural Engineer, Skidmore, Owings & Merrill, personal communication, 5 December 1978.

/3/ C. Smith, President, Dinwiddie Construction Company, personal communication, 9 November 1978.

/4/ The Richter scale (Richter magnitude) is a logarithmic scale developed by Charles Richter to measure earthquake intensity by the energy released, as opposed to earthquake intensity as determined by effects on people, structures, and earth materials.

/5/ H. Fong, Chief Plan Checker, Bureau of Building Inspection, San Francisco Department of Public Works, personal communication to R. Towle and N. Cornsand, Skidmore, Owings & Merrill, 27 December 1978.

/6/ Blume, John A., 1974, San Francisco Seismic Safety Investigation.

/7/ A swale is a slight, marshy depression in generally level ground.

K. GROWTH INDUCEMENT

The project would add 516,000 net sq. ft. of office space and 53,800 net sq. ft. of retail space to the downtown supply. The proposed new office space would be primarily occupied by Crocker Bank Northern California headquarters, which is already located in San Francisco. New retail space would be leased to retail tenants, primarily shops and restaurants. Crocker Bank would vacate approximately 426,500 net sq. ft. of office space which would become available to other office tenants in 1981. The project would represent approximately 1.2% of the office space in Downtown San Francisco and approximately 8% of similar high-rise office development now being built or proposed.

A total of approximately 3,200 downtown employees in addition to those housed in late 1978 could ultimately be located in the new office and retail space noted above. It is not known to what extent these new downtown employees would be newcomers to San Francisco, either as residents or commuters, rather than persons already residing in the City but not currently employed, or employed outside of the downtown area. Because the Bank's Northern California headquarters are already located in San Francisco, and would naturally expand its administrative functions in San Francisco, few new jobs would be considered to result from the proposed project. Rather, they would result from presumed continued corporate growth of the Bank./1/

To the extent that the project attracts new residents or commuters who would not otherwise have been attracted to San Francisco or the Bay Area, it may be viewed as employment-generating and growth-inducing, resulting in a variety of indirect growth effects. These effects would include additional demand for housing, now in short supply, demands for a variety of commercial, social, medical, and municipal services, and secondary demands on streets, freeways and transit systems.

The project would continue the trend toward replacement of older buildings on and near Market St. with new construction, but would probably not itself stimulate further office development near the site, as such development has already taken place or is being planned. The galleria could stimulate new or upgraded retail development in the immediate area.

The project would require no new construction or extension of public service or utility systems and would occur in an already developed downtown urban setting. It would therefore not require any infrastructural improvements that would open or intensify development opportunities that do not already exist.

Cumulatively, the project could contribute incrementally to an oversupply of downtown office space in the 1980's. Such an oversupply could have the effect of inhibiting growth in the Yerba Buena Center Redevelopment Area or other areas of the City, particularly south of Market St. An oversupply in San Francisco, should it occur, would not appreciably inhibit office development elsewhere in the Bay Area (see p. 95).

NOTE - Growth Inducement

/1/ Net or marginal new office employment directly resulting from a particular project is difficult to determine. A theoretical assumption must be made as to whether the new employment would have occurred without the particular project. In Section IV.D. of this report (p. 98), economic effects have been analyzed as gross impacts; that is, the future with the project is compared directly to the present without the project. Net impacts, in the sense of comparing the probable future without the proposed project to a future with the project are not discussed.

L. SHORT-TERM VS. LONG-TERM IMPLICATIONS OF THE PROPOSED PROJECT

The short-term effects of the project as proposed would result from demolition, excavation, and construction activities expected to extend over a 27-month period. Pedestrian and vehicular traffic adjacent to the project site would be constrained or restricted for varying lengths of time, 450 off-street parking spaces would be eliminated, and on-site retail activities on the Post, Kearny, and Sutter St. frontages would be curtailed during this period.

In the long-term, the project would almost triple the present retail activities on the project site and more than double the office space. These increases would be visually evident in a tall tower and a mid-block galleria that would identify the 2 types of activities. Total employment at the project site would also more than double as a result of the project (see p. 96). The net decrease in the number of parking spaces on the site would result in an increased dependence upon public transit to serve the area and an increased demand on each transit agency serving the site. In contrast to the new buildings, structures built in 1909, 1921, and 1928, would be preserved as useful architectural and historic links with the past 70 years in the area. The new tower would mark the western edge of the Financial District where other buildings of similar height exist or are proposed.

The significant long-term implications of the proposed project are identified elsewhere in this report (see p. 152).

The cumulative and long-term effects of continued Downtown development which would affect the environment include an anticipated increase in automobile trips, leading to an increase in congestion and consumption of nonrenewable fuels, resulting in impacts on air quality.

V. MITIGATION MEASURES PROPOSED TO MINIMIZE THE ADVERSE EFFECTS OF THE PROJECT

In the processes of project planning, design, and coordination, a number of measures have been identified that would reduce or eliminate the potential adverse environmental effects of the proposed project. Most of these measures have been or would be adopted by the project sponsors or their architects, builders, or other contractors. A few measures are still under consideration, and some have already been rejected.

Each mitigation measure and the status of each are discussed briefly below. Where a measure has been rejected, the reasons for its rejection are discussed. Where an action is still under consideration or is suggested, the actions required for implementation are also shown. In most cases, these actions would be optional on the part of the Bank, its architects, or future contractors, unless required by the City as conditions of project approval. For a discussion of environmental impacts, see pp. 77-142.

CULTURAL AND HISTORIC FACTORS

Should evidence of cultural or historic artifacts be uncovered at the site during construction, the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board would be notified and the contractor would be instructed to halt construction in the immediate area of the discovery for a maximum of four weeks to permit inspection, recommendation and retrieval, if appropriate. Crocker National Bank would select an archaeologist or historian to help the Office of Environmental Review determine the significance of the find and whether feasible measures could be implemented to preserve or recover such artifacts. The Environmental Review Officer would then recommend mitigation measures, if necessary, and recommendations would be sent to the State Office of Historic Preservation. Crocker National Bank would implement the recommended mitigation measures.

The galleria would be named the Lick Place Galleria to retain and recall the name of James Lick, historically associated with the site in the pre-earthquake Lick House (1861-1906) and in the present Lick Place.

LAND USE AND URBAN DESIGN

The project tower would be of sufficient height to contribute to the skyline profile of the Downtown business district, and would mark the western edge of the Financial Dsitrict.

The project would include an internal 3-level shopping galleria with plants and street furniture; street frontages would include awnings and retail uses which would enhance pedestrian interest. The design of signs and graphics would be controlled to avoid garish and distracting appearances. The galleria roof would include a landscaped garden terrace which would be seen from surrounding project buildings and from the Aetna Building, Mechanics Institute, Halladie Building and 44 Montgomery St. Buildings, and from the Sutter Hotel.

The galleria would help close the Post-Sutter retail loop and would clarify the transition between the Downtown retail and financial districts.

At its lower levels, the project would continue the horizontal facade lines and surface treatments of adjacent older structures. The exterior masonry surface materials of the tower would be similar in character to those of neighboring older buildings. Surface differentiation at the upper mechanical level would help visually terminate the tower.

The project would preserve three of the architecturally most important buildings in the block by incorporating them into the overall project.

Access and circulation for the handicapped would be facilitated by four project entrances at grade and internal shuttle elevators connecting galleria levels. Pedestrian and vehicular circulation would be separate, and loading and service areas would be underground which would reduce pedestrian hazards.

The galleria would provide the first unit of a north-south pedestrian way between Kearny and Montgomery Sts. which was recommended in a 1963 proposal by the Department of City Planning.

Street trees could be provided to enhance the street level visual amenity. Crocker could implement this measure if the Division of Street Tree Planting of the Department of Public Works approved a planting plan at this location.

ECONOMIC FACTORS

Relocation consulting services would be provided by the Mayor's Office of Economic Development and by Crocker Bank, upon request by commercial and retail tenants displaced by the project. Equal employment opportunity and affirmative action programs that apply to Crocker Bank employees would be applied by the Bank to construction contractors and subcontractors.

Centralization of the Northern California headquarters of Crocker National Bank would strengthen the Financial District as a center of world finance.

Relocation assistance by the Bank could include the location of suitable new space for dislocated tenants, the payment of moving expenses, and other types of financial assistance. These measures have been rejected by the Bank as costly and beyond the provisions and obligations of the leases.

TRAFFIC, CIRCULATION AND PARKING

During the demolition, excavation, and construction period, haul trucks would enter and exit the site between the hours of 9 a.m. and 4 p.m. only, so as to avoid conflicts with peak-hour traffic. This would require agreements between Crocker Bank and its construction contractors. The planned staging of construction, with the tower first, followed by the galleria, would provide turnaround space on-site for trucks during demolition, excavation and construction phases. This would reduce disruption of traffic on adjacent streets due to on-site construction-related activities. Crocker Bank

management would meet with the Traffic Engineering Division of the Bureau of Engineering and with the Office of Environmental Review to determine additional feasible construction traffic mitigation measures which would be satisfactory to all parties.

The project site was selected in part for ready access to freeways and transit systems. The proximity of the site to the Montgomery Station of the Market St. subway would encourage the use of BART and Muni Metro lines, served by the subway. A resulting shift in mode from private automobiles to public transit would mitigate the cumulative Downtown parking deficit and would also reduce the levels of street traffic.

Crocker would continue to encourage use of public transit by selling BART passes at No. 1 Montgomery St., and could further encourage transit use by offering Muni Fast Passes, in cooperation with Muni.

The overload that would occur on the SamTrans main line (Highway 101 Route) due to cumulative development could be mitigated by provision of additional buses, by headway changes, and possibly by shifts in routes. The San Mateo Transit District is the agency controlling the assignment of additional buses; it is controlled by funds available through its taxing and revenue system. The Metropolitan Transportation Commission is the regional administrator of Federal Urban Mass Transit funds and California funds.

In recognition of the need for public transit services to meet peak demand generated by cumulative office development in the Downtown District, Crocker would consider shared participation in a downtown assessment district, or other such mechanism, to provide funds for mass transit, should such a mechanism be established.

Crocker could also encourage an employee carpool/vanpool system by providing an in-house clearinghouse for carpool information and by providing preferential parking for carpool and vanpool users. The Bank could also examine the possibility of establishing a "flextime" system of flexible

arrival and departure hours for employees, to reduce the concentration of commuters during peak traffic hours. Crocker would examine these possibilities in detail after project completion.

The project would facilitate vehiclular traffic flows on the streets surrounding the project site by eliminating on-street loading and unloading of service vehicles.

Traffic generated by cumulative downtown development, including the proposed project, is projected to degrade the Level of Service at the intersection of Beale and Mission Sts. to E in 1981. The Level of Service could be retained at D if the Beale St. approach were restriped from 3 to 5 southbound lanes, adding 2 freeway-only lanes. The street is wide enough for 5 lanes, if towaway restrictions were placed on parking during peak hours. Restriping the street would be entirely under the jurisdiction of the Bureau of Traffic Engineering and would be considered a possible solution to the reduced Level of Service by the Bureau when the projected conditions develop./1/

CLIMATE AND AIR QUALITY

Wind shelters or enclosures on the proposed rooftop terrace would be designed to protect users from high westerly winds. Openings at one or both ends of the shopping galleria would be designed to reduce wind flows through the galleria.

During construction, the site would be sprinkled at least twice a day with water to reduce airborne particulates. Demolition and earthmoving activities would be suspended during periods of high wind speeds (greater than 15 mph) to reduce airborne particulates. Construction equipment would be maintained and operated to minimize exhaust emissions, and water-based rather than oil-based paints would be used, where feasible, to minimize hydrocarbon emissions.

NOISE

Impact pile drivers would not be used, which would reduce construction noise. Only muffled gasoline and diesel-powered construction equipment, and electrically powered equipment would be used.

Heating, ventilation and air conditioning (HVAC) equipment would be designed to deliver no more than 65 dBA to nearest receptor during daytime, to avoid increasing ambient noise levels. As recommended by City noise guidelines, an analysis of noise reduction requirements would be conducted for those portions of the project where the noise environment would exceed 70 Ldn, and any recommended noise reduction measures would be incorporated into the project design.

ENERGY CONSUMPTION

An energy management system would be installed to respond to differing energy needs in various parts of the structure. Such a system would monitor the electrical peak use curve and shed nonvital electrical loads during peak energy demand periods.

Efficiencies of HVAC systems and insulation design would also help minimize overall Crocker operational energy consumption, and use of high-efficiency light fixtures would reduce electrical consumption.

Air-conditioning and lighting energy use could be further reduced by the use of task lighting, individual room light switches and thermostats. Design decisions with respect to these measures will be made by the sponsor at a later stage in project planning.

If required as a condition of project approval, Crocker would make storage containers available to employees for collection and storage of recyclable solid wastes such as glass, metal, computer cards, and newspapers.

COMMUNITY SERVICES

Transfer of money would take place in the proposed underground loading area, thereby reducing security and traffic problems associated with the present transfer location in Lick Pl.

The project would maintain an internal security staff of approximately 30 persons, which would reduce the Bank's dependence on police protection services. This security staff would patrol the parking garage to discourage auto-related crimes.

The Bank would meet with the Crime Prevention Bureau of the Police Department to discuss additional security measures.

The project design would incorporate all fire protection measures required by the San Francisco Building Code, including a fire alarm system and an alarm monitoring station which would be equipped to indicate the time and location of any fire, activate emergency power sources, and control elevators. Other equipment would include an automatic fire detection system, ventilation for smoke control, a standby power generator, a sprinkler system on each floor, and an emergency fire fighting system which would operate if water mains were broken (i.e. after an earthquake).

Employees would be provided with a fire safety orientation program and evacuation plan.

Crocker could install low-flow plumbing fixtures to conserve water. The decision whether to implement this measure will be made at a later stage in project planning and will be based upon functional and economic considerations.

The Bank would use a trash compactor to reduce the need for collection from the project site and to help reduce the need for landfill space.

GEOLOGY, SEIMICITY, AND HYDROLOGY

During excavation, pit walls would be shored up and protected from slumping or lateral movement of soils into the pit. Construction of the tower before the galleria would permit the tower to settle first, thus minimizing differential settlement.

During construction, local streets would be mechanically swept to prevent siltation of storm drains. Construction equipment maintenance and refueling activities would be confined to locations where petroleum spillage would be contained, and wet and dry catchment basins would be constructed on site to trap silt and debris for later transportation to dumps. Contaminants would be flushed to catchment basins, and debris and quality of water discharged into City sewers would be monitored.

A further seismic hazard mitigation measure would be to bring Nos. 1 and 25 Montgomery St. and the 111 Sutter Building into conformance with the seismic safety provisions of the City Building Code. The project sponsor has rejected this measure as excessively costly, based on the opinion of project engineers, and beyond the requirements of the Code. No detailed cost estimates for implementation of this measure have been developed.

In order to reduce seismic hazard, nonstructural elements, such as hanging light fixtures, hung ceiling and wall partitions and mechanical equipment, would be firmly attached to prevent their fall during an earthquake, as required by the San Francisco Building Code. A handbook detailing emergency procedures in case of an earthquake would be prepared and disseminated to employees. Safety-treated material would be used in galleria skylights to increase their strength and reduce the potential hazard due to breaking.

ACCEPTABILITY OF IMPACT LEVELS

California State EIR Guidelines require that an EIR contain information sufficient to allow the lead agency to identify the acceptable levels to which significant, avoidable, adverse impacts would be reduced, and provide a basis

upon which such levels can be identified./2/ The determinations of impact significance and impact level acceptability are the responsibility of the decision-making body of the lead agency and will ultimately be made upon certification of this report.

For several impact parameters, these determinations may be assisted by applicable, quantified standards or regulations. In the case of the proposed project, these parameters include air quality, which is subject to Federal and State standards for pollutant emissions and concentrations; noise, which is subject to City noise guidelines; energy consumption, which is subject to State Energy Commission Standards; safety, which is subject to provisions of various City and State codes; and height, bulk, and land use, which are subject to restrictions under the City Planning Code. In the case of each of these parameters, environmental impacts due to the project could or would be mitigated to levels below the maximums permitted by the applicable standards or regulations.

Other impact parameters may be measured or assessed quantitatively but are not subject to explicit legislative or administrative standards. Traffic impacts may be measured as changes in levels of service, average daily trips, volume to capacity ratios, and vehicle miles traveled; economic impacts may be quantified as jobs created or accommodated, new areas of usable commercial space, or market and fiscal effects; and community service impacts may be measured as required changes in capital improvements or manpower. In the case of the proposed project, peak pedestrian traffic in the vicinity of the site, general transit usage, and general traffic levels would increase, but levels of service would not change substantially. Economic effects include generation of jobs, an increase in downtown office space, fiscal benefits, and other cumulative effects. Community service effects due to the project would be limited, as no appreciable changes in service delivery systems are anticipated.

The levels of the impacts discussed above are quantified elsewhere in this report. Other impacts, notably those upon visual, cultural, and aesthetic environments, are not subject to meaningful quantification, and the "acceptability" of the levels of these impacts is as yet undetermined.

NOTES - Mitigation Measures

/1/ H. Quan, Traffic Engineer, Bureau of Traffic Engineering, telephone communication, 2 May 1979.

/2/ State of California, California Administrative Code, Title 14, Division 6, "Guidelines for Implementation of the California Environmental Quality Act," as amended through 17 September 1978, Section 15143(c).

VI. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

The following environmental effects that would be attributable to the proposed project may be considered significant within the meaning of the California Environmental Quality Act and its implementing guidelines./1/

URBAN DESIGN

The project would require demolition of 4 buildings, 2 of which, the Foxcroft Building and the Lyons Building, are rated "B" in the as yet unpublished Heritage Foundation survey of downtown buildings.

The scale of the tower would contrast with smaller-scale neighboring development to the north and west.

ECONOMICS

The project would accommodate an increase in on-site employment of as many as 2500 employees in 1981 and as many as 3200 during the life of the project, and would require displacement of 73 businesses employing about 240 persons.

TRAFFIC AND TRANSPORTATION

Construction traffic would temporarily lessen the capacity of access streets and haul routes, particularly during peak hours. Installation of underground utility connections would cause intermittent nighttime traffic disruption for up to 90 days along adjacent portions of Kearny and Sutter Sts.

METEOROLOGY AND AIR QUALITY

The project would increase wind speeds along Post St. during westerly and northwesterly wind conditions, and would increase wind speeds along Montgomery St. during westerly wind conditions. Wind speeds on the proposed rooftop terrace would be relatively high during westerly wind conditions (15-40% of the time).

NOISE

Construction noise would cause intermittent work interference in neighboring office buildings.

ENERGY

During operation, the project would require about 15 million kilowatt hours of electricity per year, generated primarily from nonrenewable fossil fuels, and about 15 million cu. ft. of natural gas per year. Energy consumption would be within the conservation standards of the State Energy Commission.

CUMULATIVE DEVELOPMENT

The project would contribute incrementally to cumulative traffic, transit, visual, and air quality impacts of development now under construction and proposed in the downtown business district.

NOTE - Significant Environmental Effects

/1/ State of California, State EIR Guidelines, Administrative Code, Title 14, as amended through 4 March 1978, p. 9.

VII. ALTERNATIVES TO THE PROPOSED PROJECT

The project sponsor, Crocker National Bank, has considered, and is considering, a number of project alternatives that would meet the Bank's basic objectives: centralization of its northern California headquarters functions and accommodation of its projected corporate growth. To date, these project alternatives have all contemplated use of the same site, the block bounded by Montgomery, Post, Sutter, and Kearny Sts., exclusive of the site of the Sutter Hotel and Ver Mehr Pl. Project development on alternative sites, either in San Francisco or in other cities such as Oakland or Los Angeles was at one time considered by the sponsor, but is not now being considered because of the Bank's decision to maintain its historical association with the City, and Financial District, and because of its ownership of the project site.

The alternatives discussed below are, in addition to the "no project" alternative required by CEQA, those reasonable alternatives which could feasibly attain the basic objectives of the proposed project on the project site and which would reduce or eliminate one or more adverse impacts of the proposed project. The alternatives discussion describes and compares the basic features of each alternative and presents reasons for its rejection by the project sponsor. The major environmental effects of each alternative are described and compared to those of the proposed project in Table 26 (see p.164).

A. ALTERNATIVE 1: 700 FT. TOWER AT POST AND MONTGOMERY STS.

This alternative would place a 700-ft. tower on the site of No. 1 Montgomery St. and the banking hall at 25 Montgomery St. where it would comply with the 700 ft. Height District limits, bulk limits, and floor area ratio (FAR) which are in effect on that portion of the project site. The basic tower plan would be a square 160 ft. on a side. Each corner would be beveled 20 ft. so that the maximum plan diagonal would be 200 ft., the maximum permitted by the

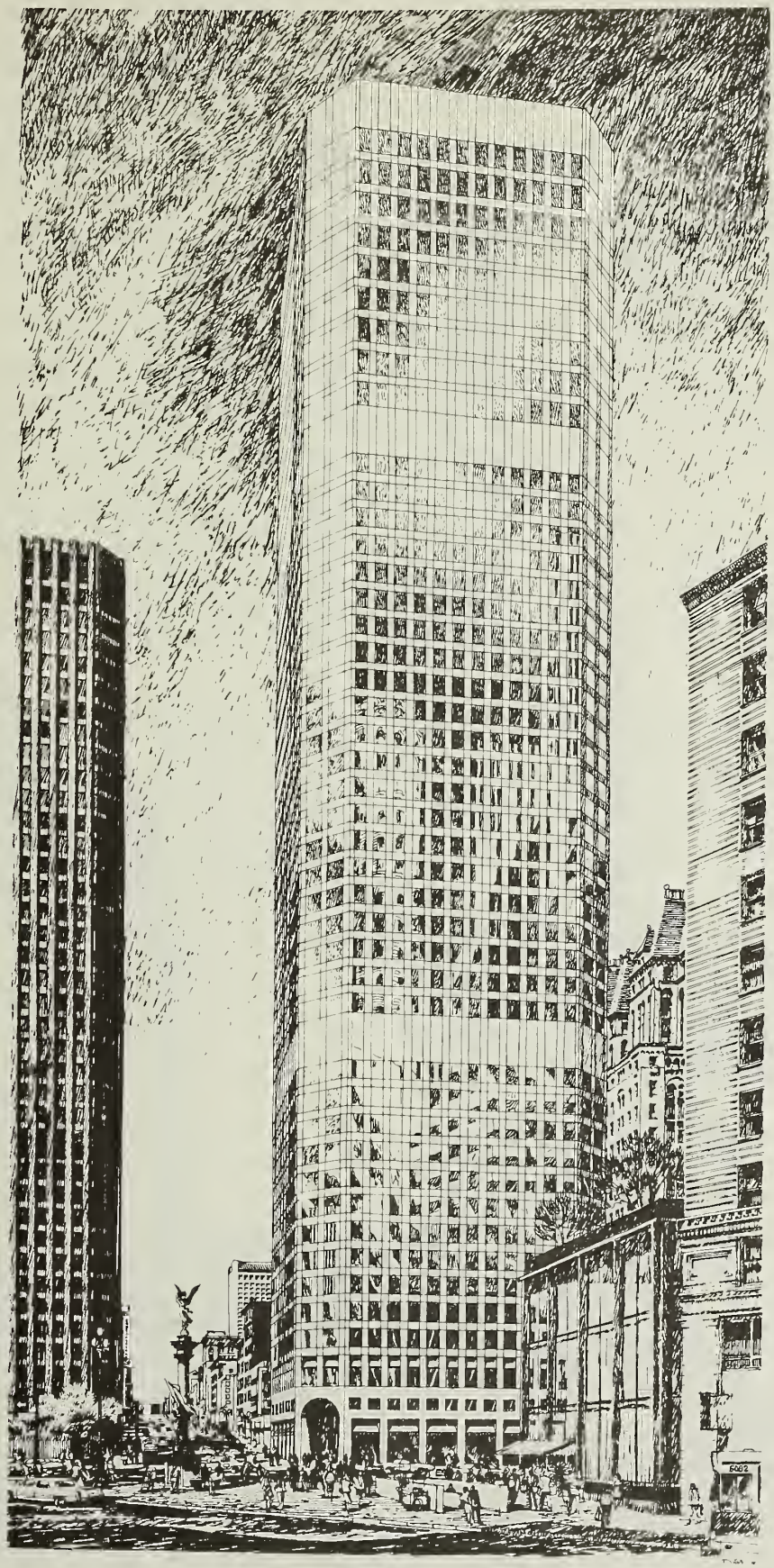
City's present bulk limits (see Figure 40). The total gross floor area of this alternative would be 1,524,000 sq. ft., 205,500 sq. ft. more than the 1,318,500 sq. ft. area of the proposed project. The floor area of this alternative would comply with the Planning Code limit of 1,544,900 sq. ft., including bonuses, in effect on the site./1/

The tower would have 49 levels with 41 office floors (each with 24,800 gross sq. ft.), 2 banking levels, 1 service level, 1 parking level with 60 to 100 parking spaces, 1 cafeteria level, and 3 mechanical levels. The Lick Garage and the Foxcroft, Insurance, Lyons, and 111 Sutter Buildings would be retained in their present uses. This alternative would require demolition of Nos. 1 and 25 Montgomery St. which are each rated "A" in terms of architectural and historic merit in the Heritage survey, and 3-D4-4 in the Department of City Planning Survey./2/ An approximately 40-ft.-high connecting structure, including portions of the banking levels, would be provided in the 15 ft. space between the north side of the tower and the south side (rear) of the 111 Sutter Building.

This alternative is presently not preferred by the project sponsor because it would require the demolition of No. 1 Montgomery St. and the banking hall, and would have other undesirable urban design effects (see Table 12, p. 90).

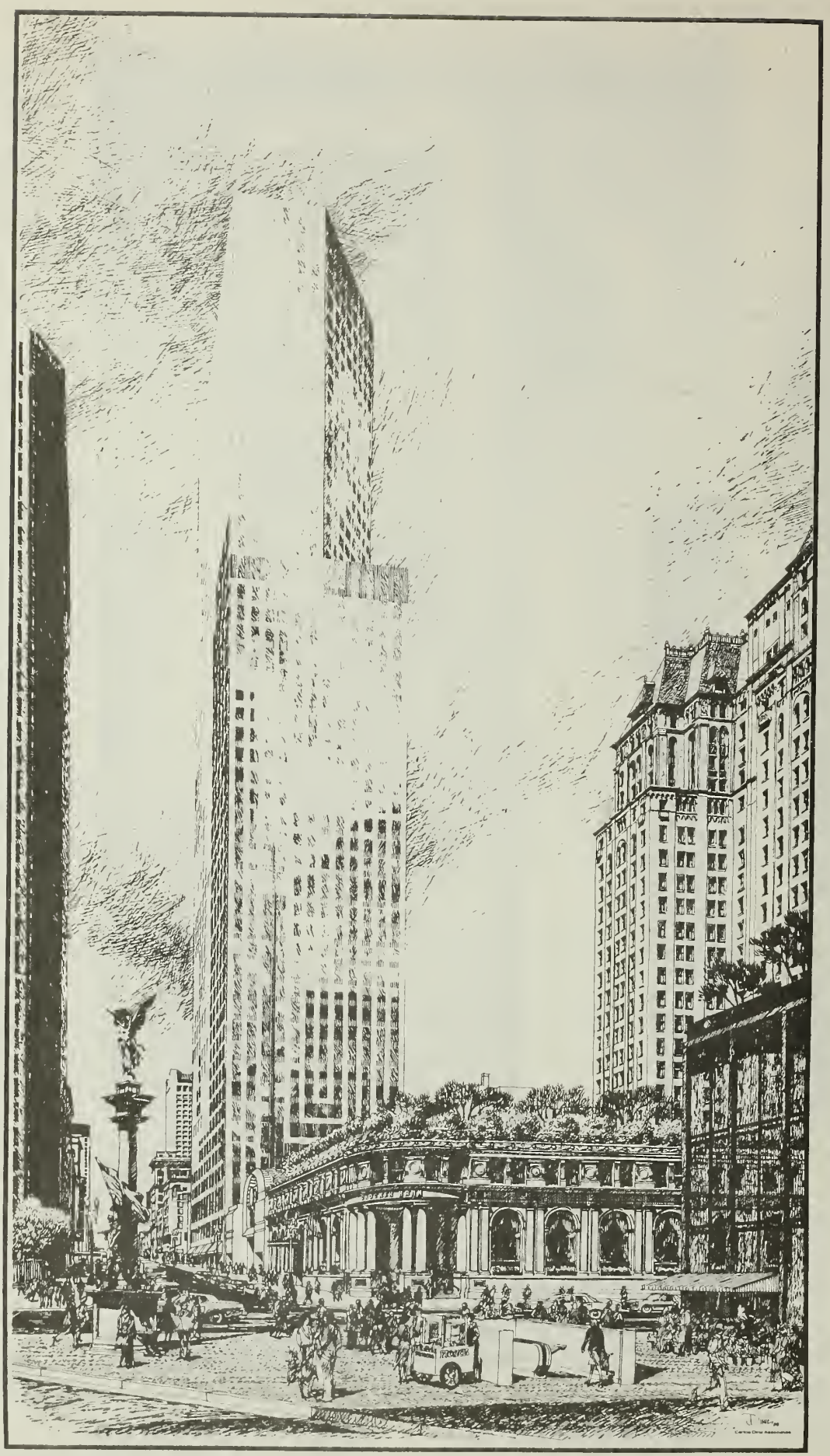
B. ALTERNATIVE 2: 695 Ft. TOWER AT POST AND KEARNY STS.

This alternative would consist of a 695 ft. tower at Post and Kearny Sts., rather than a 500 ft. tower as presently proposed. The maximum exterior tower dimensions would be 122.5 ft. by 162.5 ft. The total gross commercial floor area (office and retail) of this alternative would be 1,334,500 sq. ft., 16,000 sq. ft. more than that of the proposed project. The tower would be shaped by corner setbacks at its 18th level (northwest corner) and 34th level (northeast corner), and would have an exterior of reflective glass and aluminum. The aluminum would be clear, anodized metal in 2 tones of light gray and would be arranged in a vertical pattern (see Figure 41, p. 158). The corner setbacks would add interest to the shape of the tower and would reduce



SOURCE: Skidmore, Owings & Merrill

FIGURE 40: ALTERNATIVE 1
700-FT. TOWER AT POST
AND MONTGOMERY STREETS



SOURCE:
Skidmore, Owings & Merrill

FIGURE 41: ALTERNATIVE 2: 695-FT. TOWER AT POST AND KEARNY STREETS

its actual and apparent bulk at approximately the 250 ft. and 500 ft. levels. The shopping galleria, pedestrian and vehicular circulation patterns, and parking capacity would be similar to those of the proposed project.

This alternative would include removal of the upper 11 floors of No. 1 Montgomery St. and installation of a garden terrace of approximately 33,000 sq. ft. on the roof of the galleria and remaining banking hall. This compares to the proposed rooftop terrace of approximately 7,500 sq. ft. which would occupy only the roof of the galleria. Under this alternative, the project sponsor would retain the existing buildings at 111 Sutter St. and 25 Montgomery St., and the base structure at No. 1 Montgomery St. No. 1 Montgomery St. is highly rated in architectural surveys by both the Department of City Planning and the Heritage Foundation, primarily due to the architectural merit of the lower 3 levels, which would remain./3/

The removal of the existing 11-story office tower would create an elevated, urban open space at the foot of Montgomery St. 4 times larger than that of the proposed project. This open space would permit greater penetration of sunlight to some adjacent streets and buildings (as well as the rooftop terrace); would visually relieve the congestion of highrises at the foot of Montgomery St.; would create new views from surrounding streets and buildings to neighboring historic structures (such as the 111 Sutter Building), and, as indicated above, would provide a platform for a publicly accessible, landscaped garden terrace covering three-fourths of an acre.

This alternative would exceed by 195 ft. the 500 ft. height limit which presently applies to the western one-half of the project block, and would exceed by 3.5 ft. the 200 ft. diagonal bulk limit which applies to buildings above a height of 150 ft. As a result, implementation of this alternative would require a change in Height District boundaries and a Conditional Use authorization for the diagonal dimension of the building.

This alternative was originally preferred by the project sponsor. However, in response to perceived public opposition to the fact that the 695 ft. tower would exceed the present 500 ft. height limit, the alternative was withdrawn in favor of the proposed project.

C. ALTERNATIVE 3: PROJECT IN CONFORMITY WITH PROPOSED HEIGHT INITIATIVE

On 5 March 1979 a "Notice of Intent to Circulate Petition" for an initiative was published describing a proposed ordinance which would amend the City Planning Code generally by reducing the permitted heights of buildings within certain areas of the City, including the C-3-O Downtown Office District which includes the project site. Under the text of the proposed initiative, the C-3-O Downtown Office District would be allowed a maximum height limit of 260 ft., a basic FAR of 8:1 (as opposed to the present basic FAR of 14:1), and a maximum FAR (including bonuses) of 14:1.

Section 8 of the proposed initiative ordinance would expressly exclude from the effect of the initiative certain permits issued on or before the date of qualification of the initiative, so long as those permits were lawfully granted and fully vested on or before that date. Whether a permit issued on or before the date of qualification of the initiative would meet those requirements would be a question of fact to be determined in accordance with the standards judicially established by the California Supreme Court for the determination of a vested right which cannot constitutionally be infringed. Furthermore, there may be a constitutional question as to whether the proposed initiative may permissibly establish the date of qualification as the date for the determination of the existence of a vested right as distinguished from the effective date of the initiative ordinance should it in fact qualify for the ballot and ultimately be adopted by vote of the people.

In order for the proposed initiative to appear on the 6 November 1979 ballot, a Certificate of Sufficiency would have to be issued for the proposed initiative by the Registrar not later than 30 days prior to the date of the election.

If Crocker has obtained a lawful permit and acquired vested rights under it prior to the qualification of the initiative, even if the initiative is adopted it will, by its terms, have no effect on the proposed Crocker project. If the permit is issued, and rights thereunder vest between the time of qualification and adoption of the initiative, the constitutional issue regarding the retroactive effect of the initiative makes it unclear whether

the initiative would affect the project. Assuming the initiative both qualifies and is adopted before Crocker obtains vested rights under permits lawfully issued, the maximum height of the building, as well as its FAR, would be subject to the terms of the initiative./4/

Should the project ultimately be subject to the terms of the initiative, any of a number of possible design configurations could be developed that would conform to its terms. Two such configurations are described below. These alternatives have not been advanced by the project sponsor, however, and have, in fact, been rejected as being incapable of meeting its objectives for centralization, growth, and a reasonable urban design solution to its program requirements.

ALTERNATIVE 3A: 260-FT. TOWER AT POST AND KEARNY STS.

This alternative would provide for construction of a 15-level, 260-ft. tower at Post and Kearny Sts., removal of the 11-story office tower at No. 1 Montgomery St., and installation of a rooftop terrace above the remaining banking hall, such as that shown for Alternative 2 (see Figure 41, p. 158). The tower would contain 11 office levels, 2 retail levels (1 including a street-level lobby), a cafeteria level, and 1 mechanical level, each with 19,900 gross sq. ft. An additional 3 levels would be below grade, including retail, service, and parking floors. The maximum exterior plan dimensions of the tower would be identical to those of the proposed tower (120 ft. by 168 ft.), and, like the corners of the proposed 500-ft. tower, the corners of the 260-ft. tower would be beveled slightly to reduce the maximum plan diagonal from 203.5 ft. to 200 ft. The total gross commercial floor area of this alternative would be 765,000 sq. ft., 552,600 sq. ft. less than the 1,318,500 sq. ft. area of the proposed project. The exterior tower finishes would probably be similar to those of the proposed tower, and would consist of light-colored masonry and glass.

Like Alternative 2, the shopping galleria, pedestrian and vehicular circulation patterns, and parking capacity would be similar to those of the proposed project.

ALTERNATIVE 3B: 150-FT. TOWER AT POST AND KEARNY STS.

This alternative would provide for construction of a 10-level, 150-ft. tower at Post and Kearny Sts. and retention of the existing 11-story office tower at No. 1 Montgomery St. The 150-ft. tower would contain 6 office levels, 2 retail levels (1 including a street-level lobby), a cafeteria level, and a mechanical level, each with approximately 19,900 gross sq. ft. An additional 3 levels would be below grade, including retail, service, and parking floors. The maximum exterior plan dimensions of the tower would be identical to those of the proposed tower (120 ft. by 168 ft.). The total gross floor area would be 781,000 sq. ft., 537,500 sq. ft. less than the floor area of the proposed project. The exterior tower finishes would probably also be similar to those of the proposed tower and would consist of light-colored masonry and glass.

Like Alternative 2, the shopping galleria, pedestrian and vehicular circulation patterns, and parking capacity would be similar to those of the proposed project. Like the proposed project, the rooftop garden terrace would be limited to the roof of the galleria and would have an area of approximately 7,500 sq. ft.

D. ALTERNATIVE 4: NO PROJECT

This alternative, as defined by the California Environmental Quality Act, would entail no change to the project site as it now exists; all existing buildings on the site would remain. The Crocker Bank would continue to operate with its Northern California headquarters staff scattered in several locations. Some departments or functions might be moved to Los Angeles where the Bank maintains a 43-story office building. With no project, traffic and transit, air quality, wind, noise, and service conditions and requirements would continue at their present levels. This alternative is not acceptable to the project sponsor as it would not provide for current and foreseeable space and operational needs of the Bank.

NOTES - Alternatives

/1/ Calculations of allowable FAR and floor areas for the proposed project and each project alternative are available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St., Room 319.

/2/ For an explanation of the ratings used in the two surveys, see pp. 41-43.

/3/ The Foundation for San Francisco Architectural Heritage, 1978, The San Francisco Historic Resources Inventory (unpublished). Evaluator's comments available for public inspection at the Department of City Planning, Office of Environmental Review, 45 Hyde St., Room 319.

/4/ C. Seneker, II, Project Attorney, Morrison & Foerster, personal communication, 4 May 1979.

TABLE 26: COMPARISON OF ENVIRONMENTAL EFFECTS OF PROJECT ALTERNATIVES WITH THOSE OF

	PROPOSED PROJECT	1
	500-ft. Tower at Post and Kearny Sts.; Galleria; Small Garden Terrace (7,500 sq. ft.); Gross On-Site Commercial Area, 1,318,500 sq. ft.	700-ft. Tower at Post and Montgomery Sts.; No Galleria; No Garden Terrace; Gross On-Site Commercial Area 1,524,400 sq. ft.
LAND USE AND ZONING	Would comply with existing land use, height, bulk and FAR regulations.	Same as Proposed Project.
URBAN DESIGN - Architectural Resource Removal	Would require demolition of the Foxcroft Bldg. (summary rating of 3 in DCP survey, rating of B in Heritage Survey); Insurance Bldg. (rated O in DCP Survey, B in Heritage Survey); Lyons Bldg. (rated C in Heritage Survey); and Lick Garage (rated C in Heritage Survey).	Would require demolition of Nos. 1 and 25 Montgomery St. (summary ratings of 4 in DCP survey, ratings of A in Heritage Survey).
- Project Visibility •Regional	Tower would be comparable in height to many recently built downtown highrises and would not be particularly prominent in City skyline; upper portions or edges of the tower would be visible from some higher elevations in the City and surrounding areas, and from portions of most major approaches to the City including the Golden Gate and Bay Bridges and southern freeways.	Tower would be prominent element in City skyline, rising above surrounding structures; upper portions of tower would be visible from higher elevations in the City and surrounding areas, and from major approaches to the City including the Golden Gate and Bay Bridges and southern freeways.
• Local	Existing tower at No. 1 Montgomery St. would continue to be prominent element in local visual setting at foot of Montgomery St.; proposed tower would be prominent element in visual setting at Post and Kearny Sts.	Tower would be prominent element in visual setting at foot of Montgomery St.
- Sunlight and Shadow Effects •On Existing Environment	Tower would cast shadows on nearby streets and buildings varying with time of day and season of year. Tower would not shade any existing parks or plazas, except the Crocker Plaza, at the foot of Montgomery St. during late afternoon hours in late spring and early summer.	Tower would cast generally longer shadows on nearby streets and buildings varying with time of day and season of year. Because the tower would be directly north of Crocker Plaza, it would not shade the plaza at any time; no other parks or plazas would be shaded.
• On Proposed Galleria and Rooftop Terrace	Tower would partially shade the proposed rooftop terrace and galleria during afternoon hours most of the year. The rooftop terrace and galleria would also be partially shaded by the office tower at No. 1 Montgomery St. during early morning hours most of the year, and by the Aetna Bldg. during mid-day hours from late summer to early spring.	Galleria and rooftop terrace would not be shaded because they would not be included in this alternative.

PROPOSED PROJECT	ALTERNATIVES		
2	3 HEIGHT LIMIT INITIATIVE ALTERNATIVES		4
	3A	3B	
5-ft. Tower at Post and arny Sts.; Galleria; Large rden Terrace (33,000 sq. .); Gross On-Site mmercial Area 1,334,500 . ft.	A 260-ft. Tower at Post and Kearny Sts.; Galleria; Large Garden Terrace (33,000 sq. ft.); Gross On-Site Commercial Area 765,900 sq. ft.	150-ft. Tower at Post and Montgomery Sts.; Galleria; Small Garden Terrace (7,500 sq. ft.); Gross On-Site Commercial Area 781,100 sq. ft.	No Project; Gross On-Site Commercial Area 620,000 sq. ft.
uld require a change in ight District boundaries d a conditional use ception to diagonal bulk strictions.	Similar to Proposed Project, except would comply with proposed height limit initiative.	Same as Alternative 3A.	Existing structures comply with land use, height, bulk, and FAR regulations. Proposed height limit initiative would not apply to existing structures.
me as Proposed Project, cept would also require moval of top 11 floors of . 1 Montgomery St. (These oors detract from the chitectural quality of the se structure; the base ructure is the basis of e high survey ratings for e building.)	Same as Alternative 2.	Same as Proposed Project.	No effect.
me as Alternative 1.	Tower would be lower in height than most recently built downtown structures, but higher than many older structures immediately north and west of the project site; would be generally inconspicuous or not visible in the City skyline from most locations in the City and surrounding areas, and from major approaches to the City.	Tower would be lower in height than most recently built downtown structures and comparable in height to most older structures immmediately north and west of the project site; would be generally inconspicuous or not visible in the City skyline from most locations in the City and surrounding areas, and from major approaches to the City.	Existing tower at No. 1 Montgomery would have long-range visibility similar to that of Alternative 3A. Other structures on site would have little or no long-range visibility.
en space would be created ove third level of No. 1 ntgomery St.; tower would prominent element in sual setting at Post and arny Sts.	Same as Alternative 2, except tower would be less prominent.	Same as Proposed Project, except tower at Post and Kearny Sts. would be less prominent.	Same as Proposed Project.
me as Proposed Project, cept tower shadows would longer.	Same as Alternative 2, except tower shadows would be shorter than those of Proposed Project.	Same as Proposed Project except tower shadows would be shorter.	Existing structures cast generally shorter shadows on neighboring streets and buildings, varying with time of day and season of year. No parks or plazas are shaded by existing buildings.
cause the office tower at . 1 Montgomery St. would removed, the rooftop race and galleria would generally free of shadows ing most morning hours of e year. Mid-day and ternoon shadows would be ger than those due to posed Project.	Same as Alternative 2, except shadow lengths due to tower would be shorter than those due to Proposed Project.	Same as Proposed Project, except shadow lengths due to tower would be shorter.	Same as Alternative 1.

TABLE 26: COMPARISON OF ENVIRONMENTAL EFFECTS OF PROJECT ALTERNATIVES WITH THOSE OF

	PROPOSED PROJECT	1
- Relationship to Comprehensive Plan •Design	Tower would be larger in scale than existing development to the north and west; would be light in color with masonry and glass exterior; would be basically rectilinear in shape; would recall horizontal building lines and finishes of adjacent older buildings.	Tower would be larger in scale than all surrounding development, especially the remaining development on site and the small-scale development to the north and west; would be light in color with masonry and glass exterior; would be octagonal in shape; would recall horizontal building lines with finishes of adjacent older buildings.
•Pedestrian Amenities	Project would provide pedestrian-level retail galleria, 7,500 sq. ft. rooftop open space; distracting and cluttering visual elements, such as parking areas and utility lines would be underground, out of public view; graphics would be controlled to avoid garish or distracting appearances.	Alternative would provide no pedestrian level retail area nor rooftop terrace, and few other pedestrian amenities. Distracting visual elements and graphics would be controlled to avoid garish or distracting appearances.
•Views	Tower would block some views to Bay and open space, and would be widely visible but not particularly prominent in views of skyline.	Tower would block more views to Bay and open space than would Proposed Project; would be widely visible and prominent in views of skyline; and would constrict views and open space at foot of Montgomery St.
•Circulation	Above-grade circulation would be limited to pedestrians and separated from below-grade auto and service circulation. Walking distances through site would be shortened. Project sponsor would apply for vacation of eastern 40 ft. of Ver Mehr Place to facilitate construction of underground service facilities and improvement of the end of the alley as a pedestrian entrance to the galleria.	Because Lick Garage would remain, pedestrian and vehiclular circulation would remain commingled.
•Historic Preservation (see also Architectural Resource Removal, above)	Project would preserve the 111 Sutter Bldg. (summary rating of 5 in DCP Survey, rating of A in Heritage Survey) and Nos. 1 and 25 Montgomery St. (rated 4 in DCP Survey, A in Heritage Survey).	Would preserve the Foxcroft Bldg. (summary rating of 3 in DCP Survey, rating of B in Heritage Survey); Insurance Bldg. (rated D in DCP Survey, 3 in Heritage Survey); Lyons Bldg. (rated C in Heritage Survey); and Lick Garage (rated C in Heritage Survey).

PROPOSED PROJECT (continued)

ALTERNATIVES			
2	3 HEIGHT LIMIT INITIATIVE ALTERNATIVES		4
	3A	3B	
›wer would be larger in ale than proposed tower; upper levels, tower would ıve distinctive, patterned ⁄o-tone aluminum and eflective glass exterior eatment. Large rooftop rrace would create open ›ace at foot of Montgomery .; tower would have a ›nfigured, basically ctilinear form; would call lines and finishes of ljacent older buildings at ›wer levels.	Same as Proposed Project, except tower would be smaller in scale than that of Proposed Project, and large rooftop terrace would create open space at foot of Montgomery St.	Same as Proposed Project, except tower would be comparable in scale to existing development to the north and west.	Existing structures would remain.
ıme as Proposed Project, cept rooftop terrace would 33,000 sq. ft.	Same as Alternative 2.	Same as Proposed Project.	Alternative would continue to provide existing retail services, but few other pedestrian amenities; graphics would not be privately controlled.
›wer would block more views Bay and open space than ›uld Proposed Project, but wer than would Alternative because tower shaft would setback at upper levels; ›wer would be widely sible and prominent in ews of skyline. Removal upper 11 floors of No. 1 ›ntgomery St. would open up ews of neighboring storic structures.	Same as Proposed Project, except tower would block fewer views to Bay and open space; would not be widely visible; and, like Alternative 2, would open up views of neighboring historic structures.	Same as Proposed Project, except tower would block very few views to the Bay and open space and would not be widely visible.	Existing structures would remain; long-range visibility would be similar to that of Alternative 3B.
ıme as Proposed Project.	Same as Proposed Project.	Same as Proposed Project.	Same as Alternative 1.
ıme as Proposed Project, cept would require removal upper 11 floors of No. 1 ›ntgomery St.	Same as Alternative 2.	Same as Proposed Project.	No effect.

TABLE 26: COMPARISON OF ENVIRONMENTAL EFFECTS OF PROJECT ALTERNATIVES WITH THOSE OF

	PROPOSED PROJECT	1
ECONOMIC, EMPLOYMENT, AND FISCAL FACTORS - Project Site Employment	As many as 3,700 in 1982, increasing to as many as 4,300 to 4,800 by 1990.	3,700 in 1982; 4,500 to 5,000 or more in 1990;
- Construction Employment	650 person years	680 person years
- Relocation	73 businesses, 240 employees.	Temporary relocation of Crocker employees in Nos. 1 and 25 Montgomery St.
- Revenues	Revenues to City and County would be approximately $1,400,000 per year in 1982.	Not quantified; probably 10-20% greater than Proposed Project, based on relative floor areas.
TRANSPORTATION, CIRCULATION, AND PARKING - Travel Demand	The project would generate approximately 14,840 personal trip ends per day.	Not quantified; probably 10-20% greater than Proposed Project, based on relative floor areas.
- Traffic	The project would generate 200-300 vehicle trip ends to and from the site (vte) per day, due to onsite parking for 60-100 autos; would generate a total of 38,700 new vehicle miles travelled (vmt) per day; and would not change vehicular levels of service at any neighboring intersections.	The project would generate 1,400-1,500 vte per day due to retention of Lick Garage; would generate more new vmt, and could change vehicular levels of service at neighboring intersections.
- Parking	The number of on-site parking spaces would be reduced from the present 450 at Lick Garage to 60 to 100. Daily parking demand generated by the project would be about 540 spaces.	The present 450 parking spaces at the Lick Garage would be retained. Daily parking demand would probably be 10-20% greater than that due to Proposed Project, based upon relative floor areas.
- Pedestrians	Pedestrian activity on sidewalks surrounding project site would increase by as many as 3 pedestrians per foot of sidewalk width per minute, perceptibly altering level of service on Kearny St., but not elsewhere. Pedestrian routes through block would shorten walking distances.	Pedestrian activity on sidewalks surrounding project site would increase, possibly altering level of service on adjacent portions of Montgomery and Post Sts. Vehicular and pedestrian circulation patterns would not be separated and no new pedestrian routes through the block would be created.
- Transit	Transit demand due to the Proposed Project would increase p.m. peak outbound riderships by no more than 2% on any transit system. The project would not cause average daily or peak hour riderships to reach capacities but could exacerbate local peak-of-the-peak overcrowding.	Same as Proposed Project, except that riderships could increase by more than 2%, based upon relative floor areas

PROPOSED PROJECT (continued)

ALTERNATIVES			
2	3 HEIGHT LIMIT INITIATIVE ALTERNATIVES		4
	3A	3B	
,700 in 1982; increasing to ,300 to 4,800 by 1990.	2,700	Same as Alternative 3A.	1,620
90 person years	400 person years	Same as Alternative 3A.	None.
ame as Proposed Project lus relocation of Crocker mployees in No. 1 ontgomery St. to new tower.	Same as Alternative 2.	Same as Proposed Project.	None.
ame as Alternative 1.	Not quantified; probably 30-40% less than Proposed Project, based on relative floor areas.	Same as Alternative 3A.	Revenues to City and County would be approimately $374,000 per year in 1982.
ame as Proposed Project.	Not quantified; probably 30-40% less than Proposed Project, based on relative floor areas.	Same as Alternative 3A.	Not quantified, probably 50-60% less than Proposed Project, based on relative floor areas.
ame as Proposed Project.	Same as Proposed Project, except new vmt would be less.	Same as Alternative 3A.	Same as Alternative 1.
ame as Proposed Project.	Same as Proposed Project, except daily parking demand would probably be 30-40% less than that due to Proposed Project, based upon relative floor areas.	Same as Alternative 3A.	Same as Alternative 1.
me as Proposed Project.	Same as Proposed Project, except increase in pedestrian activity would be less, probably not perceptibly altering any levels of service.	Same as Alternative 3A.	Present high levels of pedestrian activity and levels of service would continue.
me as Proposed Project.	Same as Proposed Project, except increase in riderships would probably be no more than approximately 1%, based upon relative floor areas.	Same as Alternative 3A.	Present levels of transit demand would continue, generally below capacities, but approaching or exceeding capacities during peak-of-the-peak conditions.

TABLE 26: COMPARISON OF ENVIRONMENTAL EFFECTS OF PROJECT ALTERNATIVES WITH THOSE OF

	PROPOSED PROJECT	1
- On-Site Circulation	Access to parking and service levels would be provided via a single curb cut on Sutter St. Pedestrian and vehicular circulation would be separate; pedestrian routes through site would shorten walking distances and relieve some sidewalk traffic.	Vehicular service and parking traffic would continue to be commingled along Lick Pl. and Ver Mehr Pl.
METEOROLOGY AND AIR QUALITY - Wind	Project would increase existing west wind speeds along Montgomery and Post Sts., but reduce wind speeds at the Crocker Plaza; would increase northwesterly wind speeds along all street frontages, and reduce existing wind speeds at the Crocker Plaza. The rooftop terrace would be exposed to high wind speeds during both west and northwest wind conditions.	Tower would be larger and would therefore divert more wind to street level than would Proposed Project. West and northwest wind speeds would be greater than those due to the Proposed Project along Montgomery and Post St. frontages, and at the Crocker Plaza.
- Air Quality •Construction	Particulate concentrations would create a local nuisance during 27-month construction period.	Effects would be less than those due to Proposed Project, because of smaller construction site (less dust) and possibly shorter construction period.
•Operation	The project would contribute to accumulations of carbon monoxide, hydrocarbons, nitrogen oxides, particulates and sulphur oxides during inversions. The project would impede attainment of air quality standards, but would probably have no measurable impact on citywide or regional concentrations or on the frequency of standard violations.	Same as Proposed Project, except auto-related emissions would probably be greater due to more employees, and on-site carbon monoxide concentrations would probably be greater due to retention of Lick Garage.
NOISE	Project operation would cause no appreciable noise effects. Mechanical equipment may be audible at night at Sutter Hotel.	Same as Proposed Project, except for increased auto-related noise due to retention of Lick Garage.
ENERGY - Connected Kilowatt Load	9,400 KW	Not quantified, probably 10-20% greater than that of Proposed Project, based on relative floor areas.
- Average Daily Consumption BTU/sq. ft.	680 BTU/sq. ft.	Not quantified, probably similar to Proposed Project.
- Average Daily Vehicular Consumption	343 million BTU/day	Not quantified, probably 10-20% greater than that due to Proposed Project, based on relative floor areas.

PROPOSED PROJECT (continued)

ALTERNATIVES			
2	3 HEIGHT LIMIT INITIATIVE ALTERNATIVES		4
	3A	3B	
ame as Proposed Project.	Same as Proposed Project.	Same as Proposed Project.	Same as Alternative 1.
ower would increase orthwest wind speeds along ost St.; reduce them at the rocker Plaza and at the ntersection of Kearny and utter Sts. Project would lso increase west wind peeds on Post St. and ontgomery St., but reduce hem at the Crocker Plaza. he rooftop terrace would be xposed to low and oderately low northwest ind speeds, and high west ind speeds.	West and northwest wind conditions would be similar to those due to the Proposed Project, except northwest wind speeds along Post St. would be less.	West and northwest wind conditions would be similar to those due to the Proposed Project, except wind speeds would be less on the rooftop terrace and greater at the Crocker Plaza.	Wind speeds during northwest wind conditions would range from low to moderate, except at the intersection of Kearny and Sutter Sts., and at the Crocker Plaza, where wind speeds would be high. Wind speeds during west wind conditions would range from low to moderately low, except at the east corner of the intersection of Montgomery and Post Sts. where winds would be high, and at the Crocker Plaza where winds would be moderate.
ame as Proposed Project.	Same as Proposed Project, except possibly shorter construction period.	Same as Alternative 3A.	No effect.
ame as Proposed Project.	Same as Proposed Project, except auto-related emissions would probably be less.	Same as Alternative 3A.	Total emissions would be less than those due to Proposed Project, but on-site carbon monoxide concentrations would probably be greater due to retention of Lick Garage.
ame as Proposed Project.	Same as Proposed Project.	Same as Proposed Project.	Same as Alternative 1.
,300 KW	Not quantified, probably 30-40% less than that of Proposed Project, based on relative floor areas.	Same as Alternative 3A.	Not quantified, probably at least 50% less than that of Proposed Project, based on relative floor areas.
me as Alternative 1.	Same as Alternative 1.	Same as Alternative 1.	Not quantified, probably less than Proposed Project.
milar to Proposed Project.	Not quantified, probably 30-40% less than that due to Proposed Project, based on relative floor areas.	Same as Alternative 3A.	Not quantified, probably at least 50% less than that due to Proposed Project, based on relative floor areas.

TABLE 26: COMPARISON OF ENVIRONMENTAL EFFECTS OF PROJECT ALTERNATIVES WITH THOSE OF

	PROPOSED PROJECT	1
SEISMIC HAZARD	Strong ground shaking would cause swaying of tower and possible damage to exterior panels and glass, but would not cause tower to topple. Because existing office tower at No. 1 Montgomery St. is not seismically reinforced, its retention would continue exposure of occupants to seismic hazard.	Same as Proposed Project, except hazard due to existing tower at No. 1 Montgomery St. would be eliminated due to its removal, and magnitude of possible sway would be greater due to greater tower height.
COMMUNITY SERVICES - Security	Retail-related crime could increase; Crocker security staff would be increased; money transfer operations would take place in secured underground area instead of in publicly accessible Lick Pl.	Retail-related crime would not change due to project; Crocker security staff would probably not be increased; money transfer operations would still take place in publicly accessible Lick Pl.
- Fire	Fire Department would not require additional staff or equipment due to project. Fire fighters would have no ladder access to upper tower levels.	Same as Proposed Project.

PROPOSED PROJECT (continued)

ALTERNATIVES			
2	3 HEIGHT LIMIT INITIATIVE ALTERNATIVES		4
	3A	3B	
ame as Alternative 1.	Same as Proposed Project, except magnitude of sway would be less due to lower tower height.	Same as Alternative 1, except magnitude of sway would be less due to lower tower height.	Hazard due to lack of seismic reinforcement in existing structures would continue.
ame as Proposed Project.	Same as Proposed Project.	Same as Proposed Project.	Same as Alternative 1.
ame as Proposed Project.	Same as Proposed Project, except fire fighters would have streetside ladder access to greater proportion of tower.	Same as Alternative 3A, except fire fighters would have streetside ladder access to entire tower.	Same as Alternative 3B (existing tower at No. 1 Montgomery St.).

VIII. IRREVERSIBLE ENVIRONMENTAL CHANGES DUE TO THE PROPOSED PROJECT

Demolition of the Lick Garage, and the Foxcroft, Insurance, and Lyons Buildings, would be irreversible. The scale of the intended development represents an environmental change which probably would not be reversible within several generations. Nonrenewable resources used would include the land, and the energy and materials used in the construction of the project. Some materials, however, could be recycled.

IX. EIR AUTHORS AND CONSULTANTS; ORGANIZATIONS AND PERSONS CONSULTED

EIR AUTHORS

Department of City Planning
City and County of San Francisco
Office of Environmental Review
45 Hyde Street
San Francisco, CA 94102
(415) 552-1134
Environmental Review Officer:
Selina Bendix, Ph.D.
Environmental Coordinator:
Xandra Malandra

EIR CONSULTANTS

Environmental Science Associates
1390 Market Street, Suite 215
San Francisco, CA 94102
(415) 552-4775

(Prime Consultant: Project Description, Cultural and Historic Aspects, Land Use and Zoning, Urban Design, Economic, Employment, and Fiscal Factors, Meteorology and Air Quality, Energy, Community Services and Utilities, Geology, Seismicity and Hydrology, Growth Inducement, Mitigation Measures, Significant Environmental Effects, and Alternatives to the Proposed Project.)

James R. McCarthy, AICP:
Associate-in-Charge
Marty Abell, AICP: Project Leader

TJKM, Transportation Consultants
(Transportation)
710 South Broadway, Suite 302
Walnut Creek, CA 94596
(415) 938-2200
C. Kinzel, P.E., Lic. #C15347, T0023
F. Dock, EIT 39398

Charles M. Salter Associates, Inc.
(Noise)
350 Pacific Avenue
San Francisco, CA 94111
(415) 397-0442
C. M. Salter, Lic. #16460
R. Illingworth
R. Rodkin

Environmental Impact Planning
Corporation (Wind Tunnel Measurements)
319 Eleventh Street
San Francisco, CA 94103
(415) 626-9034
W. Howard, Project Manager
J. Haltiner, Air and Water Resources
Engineer

CROCKER NATIONAL BANK

R.H. Short, Jr., Senior Vice President,
and President
Crocker Properties, Inc.
111 Sutter Street
San Francisco, CA 94104
(415) 983-6678

L. Enersen, Assistant Vice President
Crocker Properties, Inc.
111 Sutter Street
San Francisco, CA 94104
(415) 983-0401

J. Dixon, Vice President and Director of
Bank Security
1 Montgomery Street
San Francisco, CA 94104
(415) 983-2681

J. Glaze, Vice President
Crocker Properties, Inc.
111 Sutter
San Francisco, CA 94104
(415) 983-0406

B. Lattie, Public Affairs Officer
44 Montgomery Street
San Francisco, CA 94104
(415) 983-7148

PROJECT ARCHITECTS AND ENGINEERS

Skidmore, Owings & Merrill
One Maritime Plaza
San Francisco, CA 94111
(415) 981-1555
J. Merrill, Senior Partner, Lic. #C1846
C. Basset, Partner in Charge of Design, Lic. #C7532
R. Armsby, Associate Partner, Lic. #C6342
S. Johnston, Chief Structural Engineer, Lic. #714
R. Foster, Associate Partner, Project Designer, Lic. #C3128
C. Jordan, Chief Mechanical Engineer, Lic. #M12343

PROJECT LEGAL ADVISORS

Morrison and Foerster
1 Market Plaza
San Francisco, CA 94105
(415) 777-6000
C. Seneker, II, Partner, Business Department

PROJECT CONSTRUCTION CONTRACTORS

Dinwiddie Construction Company
Crocker Plaza, Suite 400
San Francisco, CA 94104
(415) 986-2718
Curtis E. Smith, Jr., President
Lu Bedard (no title)

CITY AND COUNTY OF SAN FRANCISCO

Assessor's Office
Real Property Valuation Division
City Hall
San Francisco, CA 94102
(415) 558-5151
J. Stanisch, Senior Real Property Appraiser

Department of City Planning
100 Larkin Street
San Francisco, CA 94102
(415) 558-3055
E. Green, Planner, Transportation Specialist, (415) 558-5423
E. Michael, Planner, (415) 558-3055
S. Steele, Zoning Administrator, (415) 558-3055

Department of Public Works
Bureau of Sanitary Engineering
770 Golden Gate Avenue
San Francisco, CA 94104
(415) 558-2616
J. dela Cruz, Section Engineer Lic. #20488
M. Francies, Engineering Associate II

Fire Department
Fire Prevention and Investigation Division
260 Golden Gate Avenue
San Francisco, CA 94102
(415) 861-8000
W. Graham, Fire Marshal

Mayor's Office of Economic Development
552 McAllister Street
San Francisco, CA 94102
(415) 558-5626
W. Evers, Executive Director
G. Olliver, Project Manager
J. Pifarre, Project Manager

Municipal Railway
949 Presidio Avenue
San Francisco, CA 94119
(415) 558-5441
B. Brown, Transit Planner

Police Department
Hall of Justice
850 Bryant Street
San Francisco, CA 94103
(415) 553-1551
P. Libert, Planning and Research

Central District Station
766 Vallejo Street
San Francisco, CA 94133
(415) 553-1532
C. Murphy, Captain

Water Department
City Distribution Division
1990 Newcomb Avenue
San Francisco, CA 94124
(415) 558-4503
J. Kenck, Manager
G. Nakagaki, Assistant Manager

Unified School District
135 Van Ness Avenue
San Francisco, CA 94102
(415) 565-9294
L. Eickert, Business Manager

OTHER ORGANIZATIONS

Arthur M. Gensler and Associates
248 Battery Street
San Francisco, CA 94111
(415) 433-3700
A. Gensler, President
P. Brandt, Vice President

Association of Bay Area Governments
Hotel Claremont
Berkeley, CA 94705
(415) 841-9730
R. Wada, Ph.D, Program Manager, Air Quality

Bay Area Rapid Transit District
Statistical Department
800 Madison Street
Oakland, CA 94607
(415) 465-4100
W. Belding, Senior Economic Analyst

Bunker Ramo
38 Nutmet Drive
Trumble, Connecticut
(203) 377-4141
R. Biddle, Manager, Remote Data Centers

Coldwell Banker Commercial Brokerage Company
One Embarcadero Center
San Francisco, CA 94111
(415) 772-0264
N. Spencer, Senior Sales Consultant
R. Whitman, Commercial Retail Salesman

Cushman & Wakefield/Buckbee Thorne & Company
Bank of America Center
San Francisco, CA 94104
(415) 397-1700
J. Dayton, Executive Vice President, Director Northern Division

Downtown Association
582 Market Street
San Francisco, CA 94105
(415) 362-7842
L. Pflueger, General Manager

Edward Plant Company
650 California Street
San Francisco, CA 94108
(415) 421-8098
R. Redwine, Commercial Broker

Foundation for San Francisco's Architectural Heritage
2007 Franklin Street
San Francisco, CA 94109
(415) 441-3000
C. Hasbrouck (no title)

Golden Gate Disposal Company
900 Seventh Street
San Francisco, CA 94107
(415) 626-4000
F. Garbarino, Office Manager

Landmarks Preservation Advisory Board
100 Larkin Street
San Francisco, CA 94102
(415) 558-3050
E. Michael, former Secretary

Milton Meyer and Company
1 California Street
San Francisco, CA 94111
(415) 781-5100
D. Bixby, Vice President

Pacific Gas and Electric Company
245 Market Street
San Francisco, CA 94106
(415) 781-4211
R. Fohlen, Industrial Power Engineer

Pacific Telephone Company
140 New Montgomery Street
San Francisco, CA 94105
(415) 863-0777
P. Downey, Engineering Manager
G. Lupulescu, Facilities Engineer

Qwik Printing
155 Sutter Street
San Francisco, CA 94104
(415) 398-5171
B. Pfeiffer

San Francisco Tomorrow
9 First Street
San Francisco, CA 94105
(415) 566-7050
G. Cauthen, President

Woodward-Clyde Consultants
3 Embarcadero Center
San Francisco, CA 94111
(415) 956-7070
C. Basore, Associate

X. DISTRIBUTION LIST

CITY AND COUNTY OF SAN FRANCISCO

Mayor Dianne Feinstein
200 City Hall
San Franicsco, CA 94102

Chief Administrative Officer
289 City Hall
San Francisco, CA 94102
Roger Boas

Board of Examiners
Mel Cammisa, Consulting Engineer
468 Jackson Street
San Francisco, CA 94111

Henry J. Degenkolb
H.J. Degenkolb & Associates
350 Sansome Street
San Francisco, CA 94104

G.L. Gendler
G.L. Gendler & Associates
575 Mission Street
San Francisco, CA 94105

Daniel G. Kennedy
1621 Market Street
San Francisco, CA 94103

Burton Rockwell
888 Post Street
San Francisco, CA 94109

James L. Whittaker, Inc.
1355 Donner Avenue
San Francisco, CA 94124

City Planning Commission
100 Larkin Street
San Francisco, CA 94102
Toby Rosenblatt
Charles Starbuck
Ina Dearman
Susan Bierman
Yoshio Nakashima

City Planning Commission (Cont.)
Joseph Mignola
Richard Sklar
Jack Christensen
Lee Woods, Secretary

Committee for Utility Liaison on Construction and Other Projects
c/o GES - Utility Liaison
363 City Hall
San Francisco, CA 94101
Herman Beneke

Fire Department
260 Golden Gate Avenue
San Francisco, CA 94102
Chief William Graham
Chief Robert Rose

Landmarks Preservation Advisory Board
100 Larking Street
San Francisco, CA 94102
Mrs. G. Bland Platt
Patrick McGrew
Elizabeth De Losada
Sally B. Famarin
Jean E. Kortum
Stewart Morton
Albert Lanier
Philip P. Choy
John Ritchie

Mayor's Economic Development Advisory Council
555 McAllister Street
San Francisco, CAlifornia 94102
William D. Evers, President

Municipal Railway
949 Presidio Avenue
San Francisco, CA 94115
Rino Bei, Manager of Transit Improvement Program

Police Department
Hall of Justice
850 Bryant Street
San Francisco, CA 94103
Chief Charles R. Gain

Public Utilities Commission
946 Presidio Avenue
San Francisco, CA 94115
John Wentz

Public Works Department
260 City Hall
San Francisco, CA 94102
Jeffrey Lee, Director

Bureau of Building Inspection
450 McAllister Street
San Francisco, CA 94102
Robert C. Levy, Superintendent

Bureau of Sanitary Engineering
770 Golden Gate Avenue
San Francisco, CA 94102
Al Friedland
Thomas Landers

Traffic Engineering Division
460 McAllister Street
San Francisco, CA 94102
William Marconi, Principal
Traffic Engineer

Real Estate Department
450 McAllister Street, Room 600
San Francisco, CA 94102
Wallace Wortman, Real Estate
Department

Water Department
425 Mason Street
San Francisco, CA 94102
Eugene J. Kelleher, General
Manager and Chief Engineer

FEDERAL AGENCIES

Environmental Protection Agency,
Region IX
215 Fremont Street
San Francisco, CA 94105
Paul DeFalco, Regional
Administrator

National Trust for Historic
Preservation
Wester Regional Office
681 Market Street
Suite 859
San Franicsco, CA 94105
Hisashi Bill Sugaya
Bradford Paul

United States Post Office
Sutter Street Station
CA 94104
Marion Morton

STATE AGENCIES

Air Resources Board
1709 Eleventh Street
Sacramento, CA 95814
William Lockett

State Attorney General's Office
6000 State Building
350 McAllister Street
San Francisco, CA 94102
Clem Shute

State Department of Transportation
(Caltrans), District 4
150 Oak Street
P.O. Box 3366, Rincon Annex
San Francisco, CA 94119

State Office of Historic
Preservation (2)
P.O. Box 2390
Sacramento, CA 95811
Dr. Knox Mellon
Janes P. Trynor
Eugene Itogawa

State Office of Intergovernmental Management
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95814

REGIONAL AGENCIES

Alameda-Contra Costa Transit District
508 - 16th Street
Oakland, CA 94612

Association of Bay Area Governments
Hotel Claremont
Berkeley, CA 94705

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, CA 94109
Ralph Mead

Bay Area Rapid Transit District
800 Madison Street
Oakland, CA 94607
Barbara Neustadter
Ward Belding

Golden Gate Bridge Highway and Transportation District
P.O. Box 9000, Presidio Station
San Francisco, CA 94129

Metropolitan Transportation Commission
Hotel Claremont
Berkeley, CA 94705

San Mateo County Transit District
400 South El Camino Real
San Mateo, CA 94402

LIBRARIES

Environmental Protection Agency
Library
215 Fremont Street
San Francisco, CA 94105
Jean Circiello

Hastings College of the Law
Library
198 McAllister Street
San Francisco, CA 94102

San Francisco City College,
Downtown Center
Fourth and Mission Street
San Francisco, CA 94103

San Francisco Public Library
Main Library, Civic Center
Documents Department
200 Larkin Street
San Francisco, CA 94102
Faith Van Liere

San Francisco Public Library
Presidio Branch
3150 Sacramento Street
San Francisco, CA 94115

San Francisco State Library
Government Publications
San Francisco State University
1600 Holloway Avenue
San Francisco, CA 94132

Stanford University Library
Government Documents Section
Stanford, CA 94305

University of San Francisco
Gleeson Library
Golden Gate and Parker Avenues
San Francisco, CA 94115

MEDIA

Contra Costa Sun
Contra Costa Times
2640 Shadelands Drive
Walnut Creek, CA 94598
Jack Winning

San Francisco Bay Guardian
2700 19th Street
San Francisco, CA 94110

San Francisco Chronicle
925 Mission Street
San Francisco, CA 94103
Marshall Kilduff
Allan Temko
Dale Champion

San Francisco Chronicle
2459 Pacific Avenue
San Francisco, CA 94115
Herb Caen
Carol Vernier

San Francisco Examiner
110 Fifth Street
San Francisco, CA 94105
Gerald Adams
Don Cantor

San Francisco Progress
851 Howard Street
San Francisco, CA 94103
Don Borsuk
Mark Elliot

The Sun Reporter
1366 Turk Street
San Francisco, CA 94115

KCBS, News Radio
1 Embarcadero Center
San Francisco, CA 94115

KGO, Channel 7 (News)
277 Golden Gate Avenue
San Francisco, CA 94102

KPIX, Channel 5 (News)
2655 Van Ness Avenue
San Francisco, CA 94123

KQED, Channel 9 (News)
500 Eighth Street
San Francisco, CA 94103

KRON, Channel 4 (News)
1001 Van Ness Avenue
San Francisco, CA 94109

KTVU, Channel 2 (News)
1 Jack London Square
Oakland, CA 94607

GROUPS AND INDIVIDUALS

American Institute of Architects
Northern CA Chapter
790 Market Street
San Francisco, CA 94102

Aetna Building
600 Market Street
Suite 1875
San Francisco, CA 94104
Edmund Franklin

American Savings and Loan Association
10 Kearny Street
San Francisco, CA 94104
Darlene Esson

Bay Area Council, Inc.
348 World Trade Center
San Francisco, CA 94111

Willie L. Brown, Jr.
1515 Vallejo Street
San Francisco, CA 94109

Bond Clothes
Post and Kearny Streets
San Francisco, CA 94104
Thomas McGuire

Building Owners and Managers
Association
68 Post Street
San Francisco, CA
Elmer Johnson

Coalition of San Francisco
Neighborhoods
1627 Filbert Street
San Francisco, CA 94123
Harriet Witt

Clay-Cherry Neighborhood
Association
3933 Clay Street
San Francisco, CA 94118
Mr. and Mrs. John Hall

Coldwell Banker Commercial Brokerage Co.
One Embarcadero Center
San Francisco, CA 94111
Mr. Norman Spencer

Crocker National Bank
IntraCal Properties, Inc.
111 Sutter Street
San Francisco, CA 94104
Robert H. Short, Jr.

Christopher Curry
655 Corbett Avenue, #503
San Francisco, CA 94114

Downtown Association
582 Market Street
San Franicsco, CA 94104
Lloyd Pflueger

Dubbs Building
153 Kearny Street
San Francisco, CA 94104
Michael Swartz

Foundation for San Francisco's
Architectural Heritage
2007 Franklin Street
San Francisco, CA 94109
Robert Berner, Executive
Director

Friends of the Earth
124 Spear Street
San Francisco, CA 94105
Connie Parrish

Arthur M. Gensler Jr. and
Associates
248 Battery Street
San Francisco, CA 94111
Artheru M. Gensler, Jr.

Rita Giglio
343 Texas Street
San Francisco, CA 94107

Paul Gray
27 Jordan Avenue
San Francisco, CA 94118

Greater San Francisco Chamber of
Commerce
465 California Street
San Francisco, CA 94104

Hastings Clothing Store
135 Post Street
San Francisco, CA 94104
Enzo Belli

Gerald D. Hines Interests
2100 Post Oak Tower
Houston, TX 77056
Kenneth Hubbard

Environmental Design Planning
1230 Grant Avenue
San Francisco, CA 94113
Dennis Hong

ITEL Corporation
One Embarcadero Center
San Francisco, CA 94111
John Chase

Jordan Park Improvement
Association
64 Parker Avenue
San Francisco, CA 94118
Irene Young, President

Junior Chamber of Commerce
270 Sutter Street
San Francisco, CA 94104

Laurel Heights Improvement
Association
74 Heather
San Francisco, CA 94118
R. Brian Tench, President

Laurel Village Mercahnts
Association
Shadow Box
3535 California Street
San Francisco, CA 94118
Harry Meharry, President

League of Women Voters
12 Geary Street, Room 605
San Francisco, CA 94108

Mechanics' Institute
57 Post Street
San Francisco, CA 94104
Christine Clark

Milton Meyer & Company
One Calfornia Street
San Francisco, CA 94111
Walter Schorenstein

Morrison and Foerster
1 Market Plaza
San Francisco, CA 94105
Carl Seneker, II

Nob Hill Association
12 Leroy Place
San Francisco, CA 94109
Mr. Edward Head

Nob Hill Neighbors
1335 Clay St., #12
San Francisco, CA 94133
David B. Vogel

Pacific Gas and Electric
77 Beale Street, #2429
San Francisco, CA 94106
Carl Imparato

Charles Hall Page Associates
364 Bush Street
San Francisco, CA 94104

Planning Association for the Richmond
1327 Cabrillo Street
San Francisco, CA 94118
N. Arden Danekas, President

Presidio Heights Association of Neighborhoods
3725 Jackson Street
San Francisco, CA 94118
Paul A. Renne, President

Presidio Properties
3700 Sacramento Street
San Francisco, CA 94118
Mervyn Silberberg

Protrero Hill League of Active Neighbors
951 Rhode Island
San Francisco, CA 94107
Ms. Maria J. Vermiglio

Sacramento-Arguello Neighborhood Association
3951 Sacramento Street
San Francisco, CA 94118
John Skov, Secretary-Treasurer

Sacramento Street Association
Johnson & Company
3610 Sacramento Street
San Francisco, CA 94118
John Johnston, President

San Francisco Beautiful
41 Sutter Street
San Francisco, CA 94104
H. Klussmann, President

San Francisco Building and Construction Trades Council
400 Alabama Street, Room 100
San Francisco, CA 94110
Stanley Smith

San Francisco Chamber of Commerce
400 Montgomery Street
San Francisco, CA 94104
Richard Morten
Joe Castrovinci
William Dauer

San Francisco Ecology Center
13 Columbus Avenue
San Francisco, CA 94111

San Francisco Federal Savings
85 Post Street
San Francisco, CA 94104
Ernest Picconi

San Francisco Labor Council
3068 16th Street
San Francisco, CA 94103
Bernard Speckman

San Francisco Planning & Urban Research (SPUR)
312 Sutter Street
San Francisco, CA 94108
John H. Jacobs

San Francisco Tomorrow
9 First Street
San Francisco, CA 94105
Jean E. Kortum

S.E. Onorato Garages
c/o Lick Garage
55 Lick Place
San Francisco, CA
Russell Presting

Sherman and Clay Building
53 Kearny Street
San Francisco, CA 94104
Henry Davis

Robert Seller
2661 Broadway
San Francisco, CA 94115

Sierra Club
530 Bush Street
San Francisco, CA 94108
Becky Evans

Skidmore, Owings and Merrill
One Maritime Plaza
San Francisco, CA
Robert Armsby

Sutter Hotel
Sutter and Kearny Streets
San Francisco, CA 94104
William DeLong

Telegraph Hill Dwellers
Association
1308 Montgomery Street
San Francisco, CA 94133
Anne Halsted
Roger Boyer

Wells Fargo Bank
44 Montgomery Street
San Francisco, CA 94104
James Brown, Sr.

Mark Winfrey
1135 Delaware
Berkeley, CA 94702

Women's Chamber of Commerce
681 Market Street, Room 922
San Francisco, CA 94105

XI. APPENDICES

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

APPENDIX A: TRANSPORTATION, CIRCULATION, AND PARKING

STREET AND FREEWAY SYSTEM

The freeways accessible from the project site are the San Francisco-Oakland Bay Bridge (Interstate 80) and the James Lick - Bayshore Freeway (U.S. 101). Ramps on Harrison and Bryant Streets at Fourth Street, about 1/2 mile south of the project site, provide direct access to those freeways. The Embarcadero Freeway (California 480) provides alternate access to and from the Bay Bridge and James Lick Freeway from ramps on Clay and Washington Sts. near Davis St., about 1/2 mile to the northeast of the project site and from ramps on Main and Beale Sts. at Mission St., about 1/2 mile to the southeast of the project site. The Southern - Junipero Serra Freeway (Interstate 280) has ramps at Sixth and Brannan Sts. and an unpaired off-ramp at Fourth and Berry Sts., nearly one mile from the site.

The project site fronts on 4 local streets (Post, Sutter, Kearny and Montgomery), all designated as transit arterial streets in the Transportation Plan for Downtown and Vicinity, a part of the Transportation Element of the Comprehensive Plan (San Francisco City Planning Commission, Resolution 6834, 27 April 1972). A transit arterial is defined as a route of major arterial transit lines. The plan defines major thoroughfares as crosstown thoroughfares whose primary function is to link districts within the City and to distribute traffic from and to the freeways; these are routes generally of citywide significance and of varying capacity depending on the travel demand for the specific direction and adjacent land uses. A transit preferential street is one where priority is given to transit vehicles over autos.

The corner of Post and Montgomery Sts., the southeast corner of the project site is adjacent to Market St., which is designated as a major thoroughfare in the Thoroughfares Plan of the Transportation Element of the Comprehensive Plan. Market St. is designated also as a transit preferential street in the Transit Preferential Streets Plan of the Transportation Element. Market St. carries several local electric trolley coach lines on the surface and will serve the Muni Metro light-rail-vehicle lines (LRV) in the subway beginning in 1979. The Market St. Subway also carries Bay Area Rapid Transit system (BART) lines from the East Bay, which terminate in Daly City.

Post, Sutter, Kearny and Montgomery Sts. are all 1-way streets, carrying Muni electric trolley coach and motor coach lines. Post St. is 1-way eastbound and carries 3 lanes of traffic. Sutter St. is 1-way westbound and carries 4 lanes of traffic between 4:00 and 6:00 p.m. weekdays and 2 lanes during all other hours. Kearny St. is 1-way northbound, carrying 5 lanes of traffic during the morning and evening peak periods and 4 lanes during off-peak periods. Montgomery St. is a 5-lane 1-way street, carrying traffic southbound.

The intersections of Post and Kearny Sts., Post and Montgomery Sts., Sutter and Kearny Sts., and Sutter and Montgomery Sts. are controlled by traffic signals. The signals operate on a pre-timed basis, with green-time allocations in proportion to peak and off-peak traffic volumes in the applicable directions. The intersections on Montgomery St. and Post and at Sutter Sts. are, in addition, part of a pedestrian "scramble" system. At those intersections, a portion of the green signal time is used only for pedestrian movements, thus reducing the green time available for vehicle movements.

TABLE A-1: VEHICULAR LEVELS OF SERVICE

Level of Service	Description	Volume/Capacity* v/c Ratio
A	Level of Service A describes a condition of free flow, with low volumes and high speeds. Traffic density is low with speeds controlled by driver desires, speed limits, and physical roadway conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.	0.60
B	Level of Service B is in the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted. The lower limit (lowest speed, highest volume) of this level of service has been associated with service volumes used in the design of rural highways.	0.61-0.70
C	Level of Service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained, with service volumes perhaps suitable for urban design practice.	0.71-0.80
D	Level of Service D approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low, but conditions can be tolerated for short periods of time.	0.81-0.90
E	Level of Service E cannot be described by speed alone, but represents operations at even lower operating speeds than in level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration.	0.90-1.00
F	Level of Service F describes forced flow operation at low speeds, where volumes are below capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of the downstream congestion. In the extreme, both speed and volume can drop to zero.	1.00

*Capacity is defined as Level of Service E.

SOURCE: Highway Research Board, Highway Capacity Manual, Special Report No. 87, 1965.

TABLE A-2: PEDESTRIAN LEVELS OF SERVICE*

Level of Service	Walking Speed Choice	Conflicts	Pedestrian Flow Rates (P/F/M)* One-Way Flow (Commuters)	Two-Way Flow (Shoppers, etc.)
A	Free Selection	None	8	7
B	Some Selection	Minor	8-11	7-9
C	Restricted	High Probability	11-16	9-14
D	Some Reduction	Multiple	16-21	14-19
E	All Reduced	Frequent	21-26	19-23
F	Shuffle Only	Unavoidable	26**	23**

*P/F/M = Pedestrians per foot of sidewalk width per minute.
**At Level F, the (attempted) flow rate degrades to zero at complete breakdown.

SOURCE: Fruin, J. J., 1971, Pedestrian Planning and Design, Metropolitan Association of Urban Designers and Environmental Planners, New York, N.Y. Expanded Level of Service definitions are available for public review at the Department of City Planning, Office of Environmental Review, 45 Hyde St.

METHODOLOGY USED IN TRAFFIC ANALYSIS

The traffic volume data shown in Table 7, p. 59 are derived from historical data for 1976 and 1977 obtained from the San Francisco Department of Public Works, Bureau of Traffic Engineering, and from machine traffic counts made by TJKM, transportation consultants, on various weekday dates in 1978. Estimates of some 1978 traffic volumes were made by TJKM based on manual intersection count data made by TJKM on 25, 27, and 28 September and 16 and 20 November 1978, and on the historical data for 1976 and 1977.

The capacity analysis of each intersection at which a turning movement count was made utilized the "critical lane" method. This method of capacity calculation is a summation of maximum conflicting approach lane volumes that gives the capacity of an intersection in vehicles per hour per lane. (This method is explained in detail in an article entitled "Intersection Capacity Measurement Through Critical Movement Summations: a Planning Tool", by McInerney, Henry B. and Stephen G. Peterson, January 1971, Traffic Engineering.) A sample calculation is included in the supporting documentation on file with the Department of City Planning, Office of Environmental Review, 45 Hyde St. The maximum service volume for Level of Service E was assumed as intersection capacity. A service volume is the maximum number of vehicles that can pass an intersection during a specified time period in which operating conditions are maintained corresponding to the selected and specified Level of Service. For each intersection analyzed, the existing peak-hour volume was computed and a volume-to-capacity (v/c) ratio was calculated by dividing the existing volume by the capacity at Level of Service E.

TABLE A-3: CROCKER EMPLOYEES' AREAS OF RESIDENCE AND MODES OF TRANSPORTATION

Geographic Area	% of Employees Resident	Transportation Mode	
San Francisco	7%	(For S.F. as a whole):	
Downtown/Northeast (East of Van Ness, North of Market St. to the Embarcadero & South of Market to 101)		Transit*	74%
		Auto**	17
		Drive	14
		Walk	9
Northwest (Richmond, Marina and Western Addition)	15		
Southwest (Sunset, Parkside, Mission, Ingleside, Excelsior, Twin Peaks, and Upper Market)	12		
Southeast (Potrero Hill, Bayview, Hunters Point, East and South of 101)	7		
East Bay (Alameda and Contra Costa Counties)	29		
		Transit***	81
		Auto	19
		Drive	13
North Bay (Marin and Sonoma Counties)	12		
		Transit+	67
		Auto	33
		Drive	24
Peninsula (San Mateo and Santa Clara Counties)	18		
		Transit++	58
		Auto	42
		Drive	35
TOTAL	100		

*Muni and/or BART
**Counts drivers and passengers. "Transit + Auto + Walk" sum to 100%.
***A-C Transit, BART, or charter services
+Primarily Golden Gate Transit buses
++SP--26%; BART--25%; SamTrans--3%; Muni or charter services--4%. For most of the BART users, automobiles are used from home to the Daly City station.

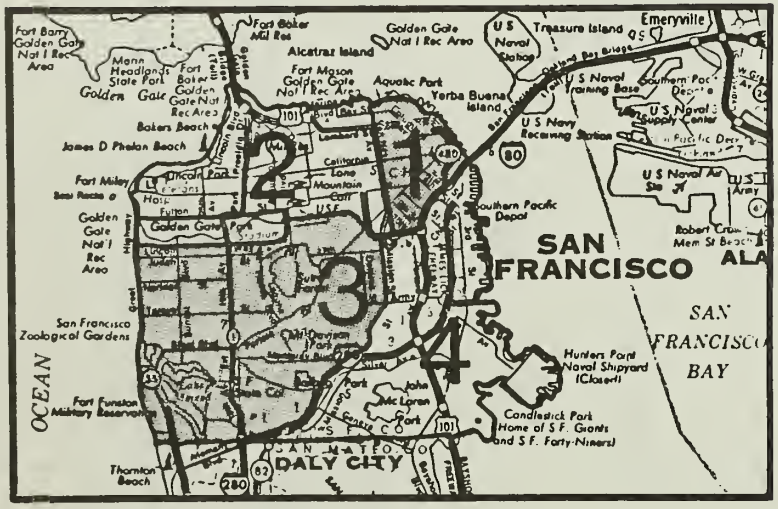
SOURCE: TJKM, from questionnaires distributed to Crocker employees. A sample questionnaire is shown on the following 2 pages.

A. Please check the box which corresponds to the location of your present offices.

1 ☐ One Montgomery Street
2 ☐ 111 Sutter Street
3 ☐ 79 New Montgomery Street
4 ☐ 74 New Montgomery Street
5 ☐ Met Plaza or 153 Kearny Street
6 ☐ 150 Post Street
7 ☐ California/Van Ness

B. Please check the box which corresponds to your area of residence:

San Francisco (see map inset below)
1 ☐ Downtown/Northeast (East of Van Ness, North of Market to The Embarcadero and South of Market to 101)
2 ☐ Northwest (Richmond, Marina, Pacific Heights and Western Addition)
3 ☐ Southwest (Sunset, Parkside, Ingleside, Twin Peaks & Upper Market)
4 ☐ Southeast (Hunters Point, Mission, Excelsior, East and South of 101)



Alameda County:
5 ☐ Berkeley-Oakland-San Leandro-Hayward-Alameda Vicinity
6 ☐ Livermore Valley Vicinity

Contra Costa County:
7 ☐ San Ramon-Walnut Creek-Concord-Orinda-Lafayette-Pittsburg-Antioch Vicinity
8 ☐ Richmond-Albany-San Pablo-Pinole Vicinity

9 ☐ San Mateo County

10 ☐ Santa Clara County

11 ☐ Marin or Sonoma County

12 ☐ Napa or Solano County

13 ☐ Other_____

C. USUAL method of transportation to and from work now. (If you use more than one method in your USUAL one-way trip, check more than one box in the column.)

	TO WORK	FROM WORK	
1	☐	☐	Drive own car
2	☐	☐	Ride in another car
3	☐	☐	Ride in an organized carpool or vanpool of 3 or more
4	☐	☐	Muni
5	☐	☐	BART
6	☐	☐	AC Transit
7	☐	☐	Samtrans
8	☐	☐	Franciscan-Greyhound-Charter Service
9	☐	☐	Southern Pacific
10	☐	☐	Golden Gate Transit Bus
11	☐	☐	Golden Gate Transit Ferry
12	☐	☐	Tiburon Ferry
13	☐	☐	Bicycle
14	☐	☐	Walk (check this only if you do not use one of the above)
15	☐	☐	Other_____

D. If you USUALLY drive to work, find the block (on the map on the reverse side of this questionnaire) in which you usually park, and put the block number in the box below.

☐ Block in which you usually park.

E. Please write in the box the time you usually arrive at work.

☐ a.m.

F. Please write in the box the time you usually leave work.

☐ p.m.

G. If a new building were built for Crocker National Bank in Block No. 97 on the map and your offices were located there, and if parking were not available in the building, what would you expect to be your USUAL method of transportation to and from work? (If you would use more than one method in your USUAL one-way trip, check more than 1 box in the column.)

	TO WORK	FROM WORK	
1	☐	☐	Drive own car
2	☐	☐	Ride in another car
3	☐	☐	Ride in an organized carpool or vanpool of 3 or more
4	☐	☐	Muni
5	☐	☐	BART
6	☐	☐	AC Transit
7	☐	☐	Samtrans
8	☐	☐	Franciscan-Greyhound-Charter Service
9	☐	☐	Southern Pacific
10	☐	☐	Golden Gate Transit Bus
11	☐	☐	Golden Gate Transit Ferry
12	☐	☐	Tiburon Ferry
13	☐	☐	Bicycle
14	☐	☐	Walk (check this only if you do not use one of the above)
15	☐	☐	Other_____

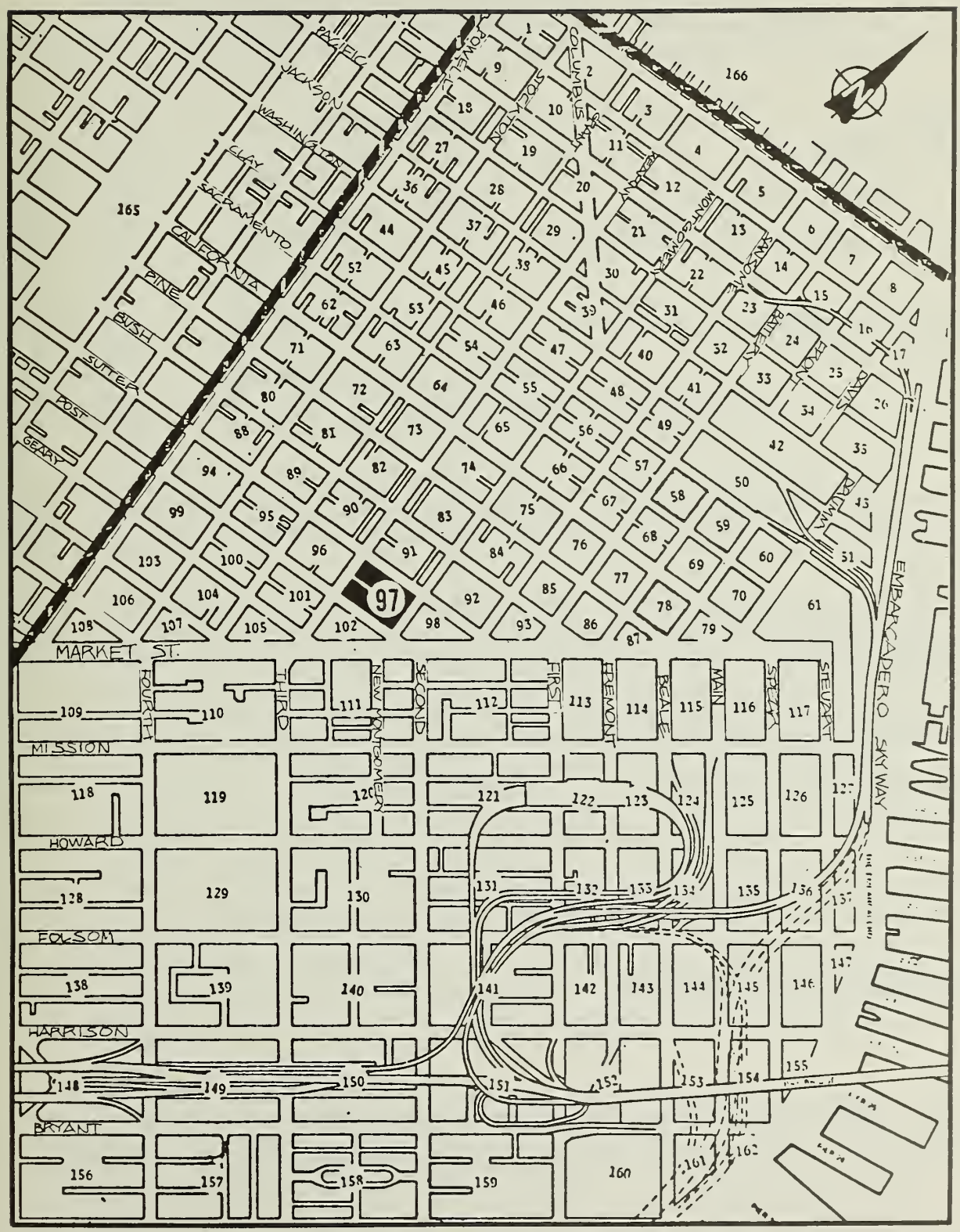

PACIFIC
JACKSON
WASHINGTON
CLAY
SACRAMENTO
CALIFORNIA
PINE
BUSH
SUTTER
POST
GEARY
POWELL
STOCKTON
COLUMBUS
KEARNY
MONTGOMERY
SANSOME
BATTERY
FRONT
DAVIS
DRUMM
EMBARCADERO
SKY WAY
MARKET ST.
FOURTH
THIRD
NEW MONTGOMERY
SECOND
FIRST
FREMONT
BEALE
MAIN
SPEAR
STEUART
MISSION
HOWARD
FOLSOM
HARRISON
BRYANT
97

TABLE A-4: CROCKER EMPLOYEES' CURRENT MODES OF TRANSPORTATION TO WORK AND EXPECTED MODES OF TRANSPORTATION TO PROJECT SITE

Mode of Transportation	To Existing Offices %	To Project %
Drive own auto (no passengers)	14.4	12.0
Drive (or passenger in) 2-occupant auto	5.2	4.3
Drive (or passenger in) 3-or-more-occupant auto	3.0	3.2
Muni	27.5	28.9
BART	22.3	23.7
AC Transit	9.8	9.8
SamTrans	0.7	0.7
Charter Service	1.5	1.5
Southern Pacific Railroad	4.7	4.8
Golden Gate Transit bus	6.1	6.1
Golden Gate Transit ferry	1.1	1.2
Tiburon ferry	0.5	0.5
Bicycle	0.1	0.1
Walk	3.0	3.1
Other (motorcycle, unspecified)	0.1	0.1
TOTAL	100.0	100.0

SOURCE: TJKM, from questionnaires distributed to Crocker employees.

METHODOLOGY USED IN CUMULATIVE TRAFFIC AND PARKING IMPACT ANALYSIS

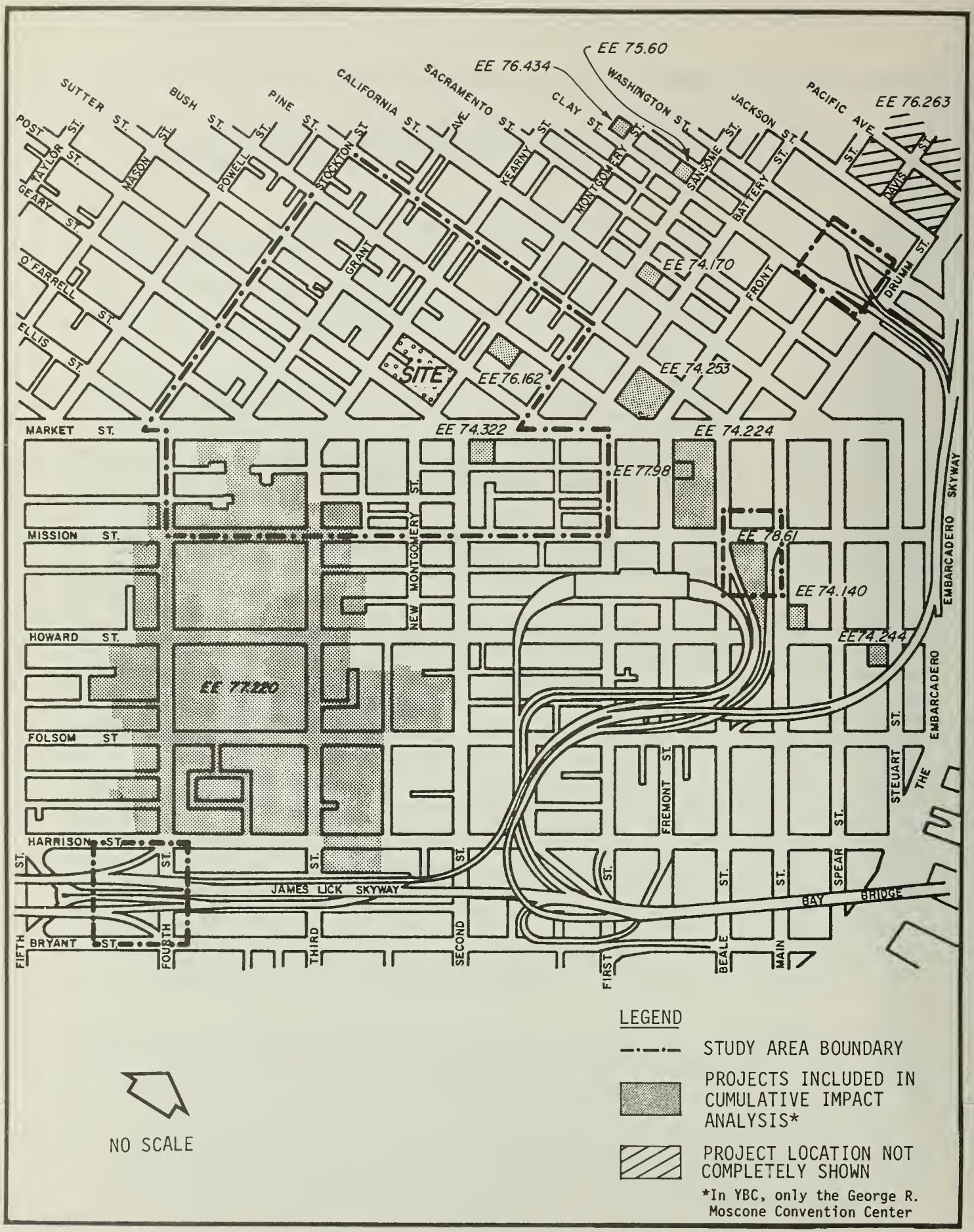
The buildings which were elements of the cumulative traffic and parking analyses are in or near the Financial District and are listed below by their EIR file number and name:

EE 74.140	Howard and Main Sts. (Northeast corner)
EE 74.170	Bank of Tokyo of California (California First Bank)
EE 74.224	333 Market St.
EE 77.98	333 Market St. addendum
EE 74.244	Parking Structure, Howard and Steuart Sts.
EE 74.253	444 Market St.
EE 74.322	595 Market St.
EE 75.60	505 Sansome St.
EE 76.162	180 Montgomery St.
EE 76.263	Golden Gate Plaza Phase III
EE 76.434	601 Montgomery St. (Negative declaration)
EE 77.220	Yerba Buena Center (Convention Center only)
EE 78.61	Pacific Gateway (Administrative Draft)

The locations of the above projects are shown in Figure A-1 as is the study-area boundary for the cumulative traffic analysis. The study-area boundary for the cumulative parking analysis was enlarged to that shown in Figure 29, p. 60.

As none of the above buildings was in operation in 1976, the base year used for the cumulative analysis was 1976. The 1976 base traffic volumes were expanded to 1981 base traffic volumes by an adjusted growth factor of 1.25% per year rather than the 1.8% per year used in the preceding subsections dealing with the direct effects of the proposed project.* The latter reflects the highest growth in total office space in the Downtown area, whereas the cumulative analysis allocates some of the future growth to the specific projects listed above. Information on the amount of traffic generated by each "cumulative" project that would affect the streets in the Financial District was derived from the EIR or special traffic report on that project. The cumulative traffic from the analyzed projects was added to the 1981 base traffic. Finally, the projected traffic volumes generated by the proposed Crocker National Bank headquarters project were added to the sum of the 1981 base and cumulative traffic volumes. A similar analysis was conducted to determine cumulative parking impacts. That is, the parking demand for each of the projects considered in the cumulative analysis was determined, as was the loss or gain of parking space in the survey area from the 1976 condition.

*The 1.8% estimate was assumed to be based on the average annual increase in office space which occurred during the San Francisco Department of Public Works Downtown Parking and Traffic Survey period of 1965 to 1970. According to a summary table compiled by the Department of City Planning, the annual average increase was 1.7 million sq. ft. per year. To calculate the new growth factor, the annual average increase in gross sq. ft. of office space, exclusive of the buildings to be considered in the cumulative analysis, was determined. This increase was 1.2 million sq. ft. per year, resulting in an adjusted growth factor of 1.25%.



SOURCE: TJKM, Transportation Consultants

FIGURE A-1: PROJECTS INCLUDED IN CUMULATIVE TRAFFIC AND TRANSPORTATION ANALYSIS

METHODOLOGY USED IN TRANSIT ANALYSIS

Afternoon peak-hour riderships, shown in Table 17, p. 112, was projected from 1978 to 1981 base levels by use of a growth factor for each transit agency. The projections were based on information gathered from each agency. For SamTrans and Southern Pacific Railroad (SPRR), SamTrans demand projections were used. Mr. L. Stueck of SamTrans supplied the demand projections for average daily and total yearly patronage for the years from 1978 to 1985 for the block of routes that include the mainline routes. A SamTrans projection of SPRR ridership from San Mateo County was also supplied. The percent increase per year for SamTrans and SPRR were calculated from these data. For Golden Gate Transit, the systemwide percent per year increase stated on Page 4-1 of the "Final EIR on Proposed Toll and Fare Increases" (dated July 1978) was used. For BART and A-C Transit the daily ridership for years 1974 through April 1978 was used to project a growth trend. The patronage data were taken from "BART Impact Project - Traffic Survey Series" A-43 to A-50 (October 1974 to April 1978). A total percent increase from 1978 to 1981 was calculated for A-C and BART separately. For Muni, the systemwide increases projected by the P-O-M study (Wilbur Smith and Assoc., 1975) were compared to the 1975 data to develop a percent per year increase. The growth factors thus derived for the period 1978-1981 were 4.6% for San Francisco Muni, 16.8% for BART (both transbay and westbay), 0 for A-C Transit, 21.3 for SamTrans, 22.1 for Southern Pacific, 16.8 for Golden Gate Transit (Motor and Ferry), and 15.9% for Harbor Carrier. Worksheets showing the derivations of these percentages are on file with the Department of City Planning, Office of Environmental Review, 45 Hyde St.

These percentages were applied to the 1978 riderships shown in Table A-5 to obtain the 1981 base riderships shown in Table 17, p. 112. The projected increases in riderships due to the project were then added to the base riderships to obtain the 1981 Base + Project riderships also shown in Table 17.

TABLE A-5: 1978 PEAK HOUR TRANSIT RIDERSHIPS AND CAPACITIES
(Selected Routes;* Peak Direction Only)

	Riders	Vehicles	Capacity++ Seated	Capacity++ Total	% Occupancy Seated	% Occupancy Total	Peak
San Francisco Muni	19,720	312	15,350	24,090	128	82	p.m.
BART: Transbay	7,600	10**	6,700	10,040	113	76	p.m.
Westbay	5,900	9**	5,540	8,320	106	71	p.m.
A-C Transit	8,590	206	9,890	12,360	87	70	p.m.
SamTrans	610	15	800	980	77	63	p.m.
Southern Pacific RR	4,300	9***	11,000	11,000		39	p.m.
Golden Gate Transit							
Motor Coach	4,480	118	5,310	6,490	84	69	a.m.
Ferry	1,190	3	N.K.+	2,075		57	p.m.
Harbor Carriers, Inc.	345	2	N.K.+	700		49	p.m.

*Muni: J, K, L, M, N, 1, 2, 3, 5, 6, 7, 8, 15, 21, 30, 30X, 31, 38, 38LT, 38X, 41, 45, 55, 61, 71, 72;
SamTrans: 7F, 7B, 5M, 7R;
A-C Transit: A, B, BX, C, CH/CB, E, EX, F, FSG/FX, G, H, K, KH, L, LX, N, NX, Q, QX, R/RH, RD/RF/RCV, S, SW, V, W, Y. Effects upon each line cannot be reliably disaggregated (TJKM, Transportation Consultants, letter communications, 7 May 1979. A copy of this letter is available for public inspection at the Department of City Planning, Office of Environmental Review, 45 Hyde St.).
**Number of trains: 10 cars on Concord lines; 7 cars on Fremont line.
***Number of trains assuming 10 cars per train to reflect available rolling stock.
+Not known.
++Capacity has been calculated based on the following per-vehicle capacities:

	Seated Passengers	Total Seated and Standing Passengers
MUNI: Streetcar	55	90
Trolley	51	75
Motor Coach	48	75
Cable Car		60
BART	72	108
A-C Transit	48	60
SamTrans	53	65
Southern Pacific	100/150	100/150
Golden Gate Transit Motor Coach	45	55
Sausalito Ferry		575
Larkspur Ferry		750
Harbor Carriers Tiburon Ferry		350

SOURCE: Field observations were made by TJKM on 25, 27, and 28 September 1978 and 2 and 4 October 1978, and publicly available data was supplied by the agencies and personnel indicated below:

Agency	Data	Personal	Date
Muni	Schedule Checks (Various weekdays; 14 March 1977; 24 and 28 March, 12, 17 and 26 April, 10 May, 26 June, 17 and 31 July, 31 August, 14 September 1978)	A. Figone	2 October 1978
BART	Data Acquisition System (Tuesday, 18 April 1978)	W. Belding	16 October 1978
A-C Transit	"Traffic Survey Series A-50", Institute of Transportation Studies (April 1978)		April 1978
SamTrans	Report of Weekly Operation (22 to 29) September 1978)	L. Stuek	12 December 1978
Southern Pacific Railroad	Yearly Account, File Ap-191 (October 1976)	G. Pera	21 July 1977 19 June 1978
Golden Gate Transit	Monthly Reports (July and August 1978)	A. Zahradnik P. Dyson	12 October 1978
Harbor Carriers, Inc.	Daily Reports (Friday, 6 October 1978)	Dispatcher	13 October 1978

The methodology used in the cumulative transit analysis was similar to that used in the cumulative traffic and parking analyses. The buildings which were elements of the cumulative transit analysis are in or near the Downtown Business District and are listed below by their Office of Environmental Review EIR file number and name.

EE 74.140	Howard and Main Sts. (northeast corner)
EE 74.170	Bank of Tokyo of California (California First Bank)
EE 74.224	333 Market St.
EE 77.98	333 Market St. addendum
EE 74.244	Parking Structure, Howard and Steuart Sts.
EE 74.253	444 Market St.
EE 74.322	595 Market St.
EE 75.60	505 Sansome St.
EE 76.162	180 Montgomery St.
EE 76.263	Golden Gateway Center Phase III
EE 76.434	601 Montgomery St. (Negative declaration)

EE 77.220	Yerba Buena Center (Convention Center only)
EE 78.61	Pacific Gateway (Administrative Draft)
EE 74.71	State Compensation Insurance Building (Ninth & Market Sts.)
EE 74.128	Bank of America Data Center (Eleventh & Market Sts.)
EE 77.220	775 Market St. Office Building (Yerba Buena Center)
EE 77.157	Hibernia Bank (California & Front Sts.)
	Four Embarcadero Center
EE 78.207	Federal Reserve Bank (Market & Main Sts.)
EE 78.334	One Sansome St.

This list includes future projects with which the proposed project would share cumulative impacts on transit riderships. This list includes some projects that would not affect traffic patterns, and therefore do not appear on the list of projects used in the cumulative traffic analysis.

In the cumulative transit analysis, an adjustment similar to the adjustment made for traffic growth (i.e. relating the growth in transit ridership to the projected office space increases) was made. The growth factors were then recalculated to reflect growth exclusive of the buildings listed above. In this case, the office space included in the cumulative projects was assumed to account for 87% of the total growth. The cumulative ridership from the listed projects was added to the 1981 base ridership thus determined, and the Crocker National Bank headquarters ridership was added to the resulting totals.

The resulting ridership projections are shown in Table 22, p. 119. The reader will notice that the 1981 ridership projections, exclusive of the proposed project, shown in Table 17 differ from those shown in Table 22. This difference is a result of the application of the two differing methodologies described above, and may be explained as shown in the following example for the San Francisco Muni:

The 1981 projected ridership of 20,620 shown in Table 17 is the result of multiplying the 1978 estimated ridership of 19,720 by 1.046, thus escalating the 1978 projection by the derived growth factor of 4.6% (19,720 x 1.046 = 20,620). The projected increase in base ridership is therefore 900 (20,620 - 19,720).

The projected ridership of 25,230 shown in Table 22 is the result of multiplying the projected ridership increase derived above by .13 (to account for growth not included in the list of projects used in the cumulative analysis), adding the tabulated actual cumulative ridership due to the projects on the list, and adding this total to the 1981 base ridership (900 x .13 + 5,398 +19,720 = 25,235).

The difference revealed in this example suggests that the use of historical growth trends to project future transit demand may understate actual future demand, given present known development plans for the Downtown area.

Analysis of 1981 occupancy ratios shown in Tables 17 and 22 included allowance for known capacity expansions, as discussed on p. 111.

APPENDIX B: NOISE CONCEPTS AND SITE SURVEY

The first part of this Appendix provides background information to aid in understanding the technical aspects of the noise sections. The second part discusses the noise measurement survey conducted for this report.

FUNDAMENTALS OF ENVIRONMENTAL NOISE

Three dimensions of environmental noise are important in determining subjective response. These are:

1) the intensity or level of the sound;
2) the frequency spectrum of the sound;
3) the time-varying character of the sound.

Many rating methods have been devised to permit comparisons of quite different sounds. Fortunately, the simplest method correlates with human response almost as well as the more complex methods (Parkin 1964 and Botsford 1969). This method consists of evaluating the content of a sound in accordance with a weighting that reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency midrange. The weighting curve used is called "A" weighting, and the level so measured is called the "A-weighted sound level", or simply the "A-level".

The A-level in decibels is expressed as "dBA"; the appended letter "A" is a reminder of the particular kind of weighting used for the measurement. Typical A-levels measured in the environment and in industry are shown in Figure A-1.

Although the A-level may adequately describe environmental noise at any instant in time, community noise level varies continuously. Most environmental noise includes a conglomeration of distant noise sources which creates a relatively steady background noise in which no particular source is identifiable. These distant sources may include traffic, wind in trees, industrial activities, etc. These noise sources are relatively constant from moment to moment, but vary slowly as natural forces change or as human activity follows its daily cycle. Superimposed on this slowly varying background is a succession of identifiable noisy events, which may include single vehicle passages, aircraft flyovers, etc.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used (Kittelson et al 1964, Griffiths et al 1968, Olson 1970, Scholes 1970, Gordon et al 1971). The L10, as used in this report, is the A-weighted sound level equaled or exceeded during 10% of a stated time period. The L10 is considered by noise engineers to be a good measure of the "average peak" noise. The L50 is the A-weighted sound level that is equaled or exceeded 50% of a stated time period. The L50 represents the median sound level. The L90 is the A-weighted sound level equaled or exceeded during 90% of a stated time period. The L90 is used to describe background noise.

As it is often cumbersome to describe the noise environment with these statistical descriptors, a single number descriptor called the Leq is becoming widely used. The Leq is defined as the equivalent steady-state sound level which in a stated period of time would contain the same acoustic energy as the time-varying sound level during the same time period. The Leq is particularly useful in describing the subjective change in an environment where the source of noise remains the same but there is change in the level of activity. Widening roads and/or increasing traffic are examples of this kind of situation.

During nighttime hours, exterior background noise levels are generally lower than daytime levels. Most household noise also decreases at night, and exterior noises become very noticeable. Further, most people are sleeping at night and are very sensitive to noise intrusion.

To account for human sensitivity to nighttime noise levels the descriptor Ldn (day-night equivalent sound level) was developed. The Ldn is the A-weighted average sound level in decibels during a 24-hour period with a 10 dB weighting applied to nighttime (10 p.m. to 7 a.m.) levels. For highway noise environments the Leq during the peak traffic hour is approximately equal to the Ldn.

The effects of noise on people may be listed in 3 general categories:

1) subjective effects of annoyance, nuisance, dissatisfaction;
2) interference with activities such as speech, sleep, learning;
3) physiological effects such as startle, hearing loss.

The sound levels associated with environmental noise, in most cases, produce effects only in the first 2 categories. Unfortunately, there is as yet no satisfactory measure of the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual past experiences with noise (Stevens et al 1955).

An important parameter in determining a person's subjective reaction to a new noise is the existing noise environment to which one has adapted: the so-called "ambient" noise. "Ambient" is defined in the San Francisco Noise Ordinance as "the all-encompassing noise associated with a given environment, being a composite of sounds from many sources, near and far" (S.F. Municipal Code 1972). In general, the more a new noise exceeds the previously existing ambient, the less acceptable the new noise will be judged by the hearers (Galloway et al 1969).

Knowledge of the following relationships will be helpful in understanding the quantitative sections of the EIR (Stevens et al 1955, Beranek 1954):

1) Except in carefully controlled laboratory experiments, an increase of only 1dB in A-level cannot be perceived.
2) Outside of the laboratory, a 3 dB increase in A-level is considered a just-noticeable difference.
3) A change in A-level of at least 5 dB is required before any noticeable change in community response would be expected.

TABLE B-1: TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND IN INDUSTRY

	DECIBELS A-WEIGHTED	
CIVIL DEFENSE SIREN (100')	140	THRESHOLD OF PAIN
JET TAKEOFF (200')	130	
	120	
RIVETING MACHINE	110	ROCK MUSIC BAND
EMERGENCY ENGINE-GENERATOR (6') DC-10 FLYOVER (700')	100	PILE DRIVER (50')
SUBWAY TRAIN (20')	90	BOILER ROOM PRINTING PRESS PLANT
PNEUMATIC DRILL (50')	80	GARBAGE DISPOSAL IN HOME (3') INSIDE SPORTS CAR, 50 MPH
FREIGHT TRAIN (100') VACUUM CLEANER (10') SPEECH (1')	70	
	60	AUTO TRAFFIC NEAR FREEWAY LARGE STORE ACCOUNTING OFFICE
LARGE TRANSFORMER (200')	50	PRIVATE BUSINESS OFFICE LIGHT TRAFFIC (100') AVERAGE RESIDENCE
	40	MINIMUM LEVELS, RESIDENTIAL AREAS IN SAN FRANCISCO AT NIGHT
SOFT WHISPER (5')	30	
RUSTLING LEAVES	20	RECORDING STUDIO
	10	
THRESHOLD OF HEARING IN YOUTHS (1000-4000 Hz)	0	

NOTE: The distance (in feet) between the source and listener is shown in parentheses.

SOURCE: Charles M. Salter Associates, Inc.

4) A 10 dB increase in A-level is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response. Increases of more than 10 decibels would be expected to provoke complaints.

NOISE MEASUREMENT SURVEY

Noise levels were measured for 15 minutes at each of the locations shown on Figure 30 in the text with a Bruel and Kjaer (B&K) 4426 Noise Level Analyzer and B&K 4165 Condensor Microphone. The 4426 samples the noise environment every 0.1 second for the duration of the measurement and automatically calculates the desired statistical descriptors and the equivalent sound levels. The microphone was fitted with a windscreen and the system was calibrated before and after the survey with a B&K 4230 Sound Level Calibrator.

During the survey the sky was clear, the temperature was about 57 degrees Fahrenheit and winds were calm.

BIBLIOGRAPHY (APPENDIX B)

Beranek, L.L. Acoustics. New York: McGraw-Hill, 1954.

Botsford, J.H. "Using Sound Levels to Gauge Human Response to Noise." Sound and Vibration, 3(10):16-28 (1969).

Gordon, C.G., et al. "Highway Noise--A Design Guide for Highway Engineers." National Cooperative Highway Research Program, Report 117 (1971).

Griffiths, I.D., and F.J. Langon. "Subjective Response to Road Traffic Noise." Journal of Sound and Vibration, 8(1):16-32 (1968).

Kittelson, K.E., and C. Poulsen. "Statistical Analysis of Sound Levels." Bruel & Kjaer Technical Review, 1:3-23 (1964).

Olson, N. "Statistical Study of Traffic Noise." Ottawa: National Research Council of Canada, Report APS476, N.R.C. 11270 (1970).

Parkin, P.H. "On the Accuracy of Simple Weighting Networks for Loudness Estimates of Some Urban Noises." Journal of Sound and Vibration, 2(1):86-88 (1964).

San Francisco Municipal Code. Part II, Chapter VIII, Section 1, Article 29. Noise Abatement and Control Ordinance (1972).

Scholes, W.E. "Traffic Noise Criteria." Applied Acoustics, 3(1):1-21 (1970).

Stevens, K.N., et al. "A Community's Reaction to Noise: Can It Be Forecast?" Noise Control, 1:63 (January 1955).

APPENDIX C: GEOLOGY AND SEISMOLOGY

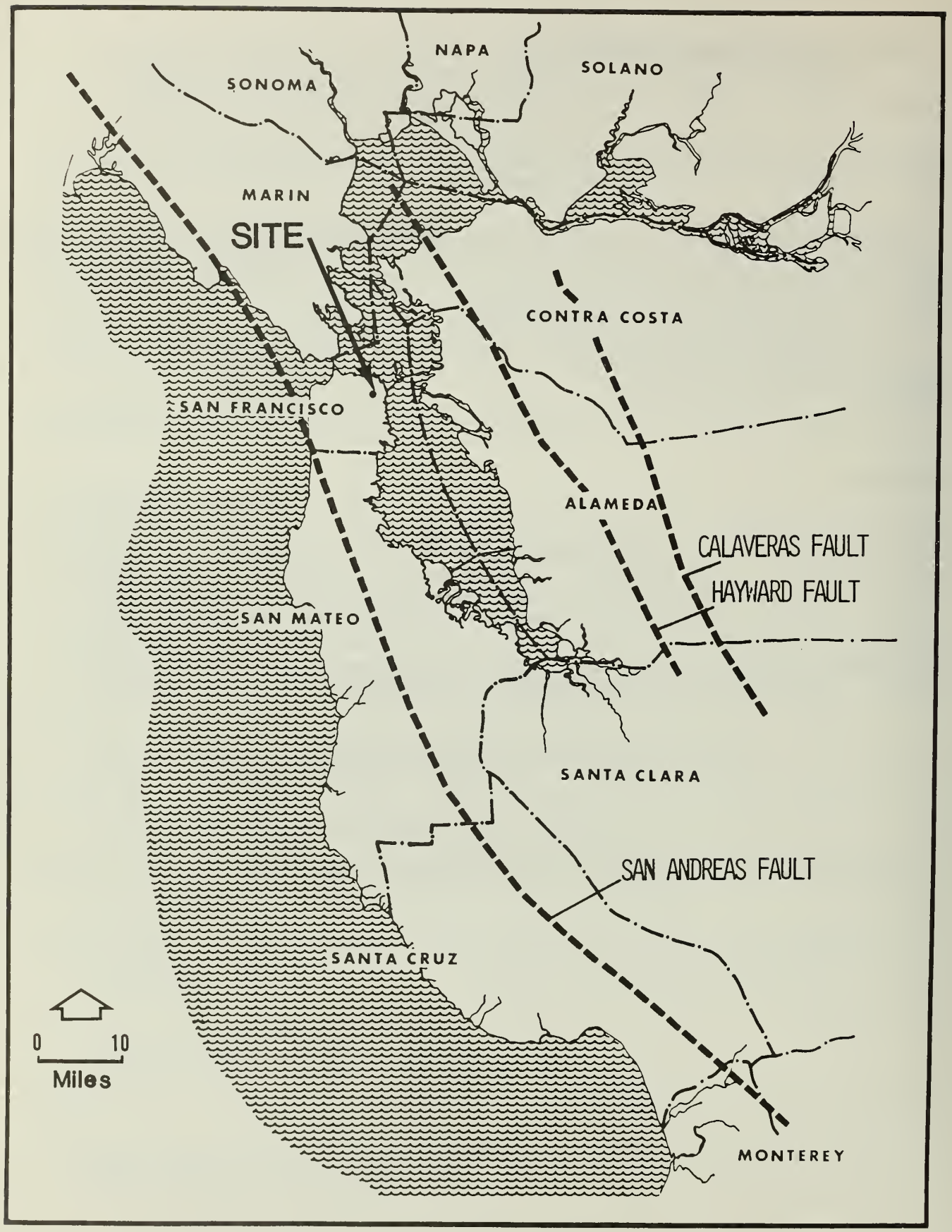
GEOLOGY

Based upon the preliminary soils investigation (see Note /1/, p. 75), the following geologic profile is expected at the site:

Geologic Material	Depth Below Ground Surface, in Feet
Sand fill and dense dune sand	0 - 40
Dense clayey sand	40 - 50
Dense fine to medium sand with occasional clay layers several feet thick	50 - 130
Stiff silty clay (old Bay mud)	130 - 145
Dense sand and very stiff clay	145 - 190
Bedrock	190+

SEISMOLOGY

The earthquake faults in the San Francisco Bay Region are shown in Figure C-1. Both the San Andreas and the Hayward Faults have a recent history of major and minor movements. Large and small earthquakes can be expected in this region in the future. Within the next 60 to 170 years (estimates of recurrence intervals vary), at least one earthquake of the magnitude of the 1906 San Francisco earthquake (about 8.3 on the Richter scale of magnitude) and several earthquakes comparable to the 1957 Daly City earthquake (about 5.3 on the Richter scale) may be expected to affect the proposed project.



SOURCE: U.S. Geological Survey

FIGURE C-1: EARTHQUAKE FAULTS IN THE SAN FRANCISCO BAY REGION